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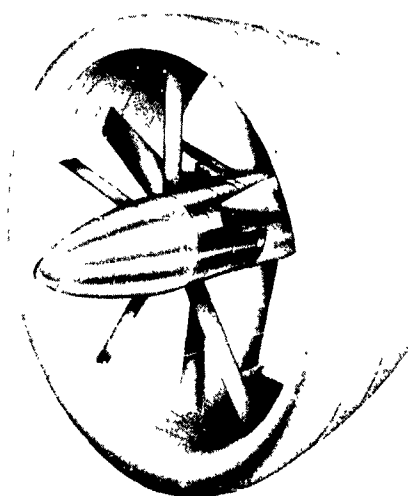
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# ENGINEERING REPORT

## SHROUDED PROPELLER TEST PROGRAM DATA

AD820762



PHASE 1

CONTRACT NO. <sup>Now</sup> 64-0707-d  
MAY, 1967

Hamilton  
Standard

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DIVISION OF UNITED AIRCRAFT CORPORATION  
A (R)

# ENGINEERING REPORT

## SHROUDED PROPELLER TEST PROGRAM DATA

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THE UNITED AIRCRAFT CORPORATION RESEARCH LABORATORIES

### PHASE 1

<sup>now</sup>  
CONTRACT NO. 54-0707-d  
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# United Aircraft Research Laboratories



EAST HARTFORD, CONNECTICUT

Report E330590-1

Wind Tunnel Tests  
of Shrouded Propellers

~~VOLUME III OF III~~

Volume IV of IV

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DATE 3/20/67

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COPY NO. 10



Report E330590-1

Wind Tunnel Tests  
of Shrouded Propellers

Volume III

The data in this volume consist of tabulations of Phase I - 8-Ft Test Section Pressure Data (Inlet and Exit Pressure Data for Performance Runs), Phase I - 18- and 8-Ft Test Section Traversing Probe Data, and Phase I - 18- and 8-Ft Test Section Pressure Data (Inlet Velocities, Exit Pressures and Shroud Surface Pressures for Pressure Runs).

For explanatory text, list of data symbols, appendices, tables and performance data figures see Volume I. For tabulations of Performance Data and Phase I - 18-Ft Test Section Shroud Inlet Velocities (for Performance Runs) see Volume II.

TABLE VII

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HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 434- 2 CONFIGURATION L1C1E1B4PNTI1R1RE THETA 3/4 = 20.0 DEG RPM

H0 = 14.850 PSIA PINF = 14.449 PSIA TSC = 64.35 DEG F RHO = 0.00232 SLUGS/CU FT

M = 0.2046 V = 229.11 FPS Q = 60.955 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	219.91	212.91	208.48	208.48	205.50	205.50	203.99	203.99	176.30	209.75	205.48

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12
RE	14.80	14.87	14.92	14.94	14.95	14.94	14.94	14.93	14.92	14.45	14.92	14.91
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.55	14.87	14.86	14.82	14.77	14.74	14.72	14.71	14.66	14.66	14.85	14.85

## TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 435-4 CONFIGURATION L1C1E1B4PNT11R1RE 8 0 THETA 3/4 = 34.0 DEG RPM 5500.

HQ = 14.849 PSIA PINF = 13.967 PSIA ISC = 68.26 DEG F RHO = 0.00225 SLUGS/CU FT

M = 0.2070 V = 343.18 FPS Q = 132.493 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	369.13	360.55	348.76	348.76	339.38	334.63	332.71	330.78	257.56	330.78	335.30

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.78	14.82	14.87	14.90	14.90	14.90	14.99	15.00	15.00	14.01	15.02	15.01	15.02

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.28	14.99	14.99	14.97	14.95	14.92	14.88	14.86	14.68	14.46	14.85	14.85

## TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 438-4 CONFIGURATION L1C1E1B4PNTTIRIRE THETA 3/4 = 42.0 DEG RPM 6001.

H0 = 14.830 PSIA PINF = 13.282 PSIA TSC = 74.24 DEG F RHO = 0.00215 SLUGS/CU FT

M = 0.4131 V = 461.06 FPS Q = 228.055 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	V AVE
R1	502.72	493.13	475.78	472.93	456.98	452.55	448.09	443.58	379.93	441.87	456.76					

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.64	14.73	14.81	14.89	14.97	15.02	15.06	15.07	15.08	13.47	15.12	15.13	15.14

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.10	15.13	15.11	15.09	15.08	15.05	15.03	14.98	14.65	14.19	14.83	14.84

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 432- 4 CONFIGURATION L1C1E1B4PNTTIRIRE 0 THETA 3/4 = 46.0 DEG RPM 6000.  
 H0 = 14.829 PSIA PINF = 13.937 PSIA ISC = 69.69 DEG F RHO = 0.00224 SLUGS/CU FT  
 M = 0.3089  $\gamma$  = 345.74 FPS  $\rho$  = 1.7859 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	471.89	508.85	431.28	429.75	407.95	403.09	396.40	391.42	331.23	386.15	415.80

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.79	14.96	15.04	15.08	15.09	14.83	14.83	14.83	14.83	14.83	14.83	14.83	14.83

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.84	14.83	15.40	15.41	15.43	15.43	15.40	15.34	15.14	14.49	14.83	14.83

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 440-4 CONFIGURATION L1C1E1R4P1T1R1R1E THETA 3/4 = 46.0 DEG RPM 6000

H0 = 14.830 PSIA PINF = 13.305 PSIA ISC = 74.24 DEG F RHO = 0.00215 SLUGS/CU FT

M = 0.4097 V = 457.39 FPS Q = 224.715 PSE PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	520.10	513.75	495.63	494.94	476.87	470.45	464.69	458.87	393.48	456.01	474.48

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.67	14.80	14.87	14.90	14.96	14.82	14.83	14.82	14.82	13.68	15.00	15.01	15.04
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.55	15.01	15.27	15.27	15.27	15.26	15.25	14.91	14.90	14.22	14.83	14.83	

## HSD SHAUNDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 441-6 CONFIGURATION LIC1E1B4PNTTIRRE 0 THETA 3/4 = 46.0 DEG RPM 5500.

HQ = 14.820 PSIA PINE = 12.508 PSIA ISC = 82.96 DEG F RHQ = 0.00202 SLUGS/CU FT

M = 0.5147 V = 573.87 FPS Q = 332.979 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	05	07	09	10	12	13	15	V AVE
R1	759.43	582.50	568.04	564.25	546.96	541.11	535.96	533.32	506.24	529.17	566.70

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.24	14.46	14.67	14.83	14.91	14.81	14.81	14.82	14.32	12.95	15.10	14.93	14.92

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	13.75	14.91	14.93	14.91	14.88	14.86	14.82	14.71	14.38	13.69	11.82	14.83

TABLE VII

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 442- 6 CONFIGURATION L1C1E1B4PHTIRRE 0 THETA 3/4 = 50.0 DEG RPM 5501.  
 NO = 14,825 PSIA PINE = 13.301 PSIA ISC = 76.85 DEG F RHO = 0.00214 SLUGS/CU FT  
 M = 0.4098 V = 458.55 FPS Q = 224.694 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	0.	512.45	493.24	493.34	475.60	469.11	464.74	460.34	417.45	455.08	424.14

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.69	14.82	14.86	14.87	14.93	14.82	14.81	14.81	14.81	13.99	14.83	14.83	14.83

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.83	14.83	15.26	15.27	15.26	15.25	15.25	14.77	14.85	14.21	14.83	14.83



TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 443-6 CONFIGURATION J1C1E1B4PNTI1R1RE THETA 3/4 = 50.0 DEG RPM 5502.

HO = 14.838 PSIA PINF = 12.516 PSIA ISC = 82.31 DEG F RHO = 0.00203 SLUGS/CU FT

M = 0.5156 V = 574.49 FPS Q = 334.363 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	620.92	606.74	588.13	585.06	567.08	558.88	552.61	546.83	485.43	546.83	565.85

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.42	14.56	14.68	14.81	14.94	15.02	15.07	15.08	15.11	12.77	15.08	15.15	15.16

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.04	15.14	15.12	15.12	15.10	15.08	15.02	14.75	14.63	13.75	14.83	14.84

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 444-4 CONFIGURATION 11C1E1R4PNTTIRRE THEIA 3/4 = 54.0 DEG RPM 5544.  
 HO = 14.845 PSIA PINE = 13.318 PSIA ISC = 75.55 DEG F RHO = 0.00215 SLUGS/CU FT  
 M = 0.4099 V = 458.14 FPS Q = 225.120 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	525.59	518.37	499.68	498.99	481.46	475.08	467.28	462.93	364.28	459.88	475.35

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.70	14.85	14.94	14.98	15.01	15.04	15.10	15.16	15.23	13.57	15.30	15.34	15.34

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.65	15.36	15.34	15.32	15.30	15.29	15.25	14.80	14.96	14.23	14.84	14.85

TABLE VII

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 445-4 COMBUSTION L1C1E1B4PNTTIRRE THEIA 3/4 = 54.0 DEG RPM 5500.  
HD = 14.851 PSIA PINE = 12.537 PSIA TSC = 79.84 DEG F PHO = 0.00204 SLUGS/CU FT  
M = 0.5143 V = 571.78 FPS Q = 333.214 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	639.44	625.50	606.54	604.75	584.12	576.14	569.62	562.11	489.02	558.07	581.53

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.48	14.63	14.70	14.78	14.89	14.84	14.84	14.84	14.84	13.06	14.87	14.85	14.85

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.85	14.85	15.33	15.32	15.31	15.29	15.27	14.79	14.75	13.78	14.85	14.85

TABLE VII

E330590 - I

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 446- 6 CONFIGURATION L1C1E1B4PNTIIRRE THEIA 3/4 = 58.0 DEG RPM 5003.

HD = 14.858 PSIA PINF = 12.546 PSIA ISC = 78.15 DEG F RHD = 0.00205 SLUGS/CU FT

M = 0.5139 V = 570.48 FPS Q = 332.959 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	Y AVE
81	633.63	620.22	601.32	598.93	578.42	569.78	564.80	556.63	492.14	551.15	576.70

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.46	14.60	14.67	14.76	14.86	14.85	14.85	14.84	14.84	12.98	14.99	15.16	15.17

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.48	15.20	15.28	15.28	15.28	15.27	15.25	14.78	14.78	13.79	14.85	14.86

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TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 449-3 CONFIGURATION LICIE1R3PRI1R1RE INLET 3/4 = 34.0 DEG RPM 5504.

MD = 14.860 PSIA PINE = 13.981 PSIA ISC = 71.64 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3062 V = 343.50 FPS Q = 132.023 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	375.02	363.81	352.13	349.38	339.15	336.31	332.55	328.69	227.59	330.35	333.50

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.71	14.78	14.86	14.93	14.97	14.98	14.98	14.98	15.00	14.04	14.99	15.00	14.99

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.76	14.99	15.00	14.99	14.99	14.98	14.96	14.82	14.79	14.47	14.86	14.86

TABLE VII

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 450- 4 CONFIGURATION 11C1E1R3P11R1R1E THEIA 3/4 = 38.0 DEG RPM 5999.  
HD = 14.859 PSIA PINE = 13.975 PSIA ISC = 72.81 DEG F RHD = 0.00223 SLUGS/CU FT  
M = 0.3072 V = 344.94 FPS Q = 132.797 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	410.36	403.47	389.54	387.87	373.02	368.92	362.80	359.22	292.46	357.48	370.71

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.77	14.86	14.92	14.97	15.02	15.07	15.09	15.11	15.13	14.07	15.15	15.16	15.17
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.91	15.18	15.18	15.19	15.20	15.20	15.19	14.81	14.99	14.50	14.86	14.86	

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FI TEST SECTION

PRESSURE DATA

RUN - PT NO 451- 4 CONFIGURATION LICIEIR3PRIIRIE THETA 3/4 = 42.0 DEG RPM 6003.  
HU = 14.868 PSIA PINF = 13.971 PSIA ISC = 71.64 DEG F RHO = 0.00224 SLUGS/CU FT  
M = 0.3093 V = 346.87 FPS Q = 134.577 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	432.89	426.84	412.75	411.96	394.13	388.31	382.41	378.15	310.94	373.69	391.21

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.81	14.90	14.98	15.01	15.03	15.07	15.12	15.16	15.20	14.08	15.25	15.26	15.28
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.02	15.32	15.33	15.34	15.36	15.37	15.37	14.82	15.15	14.52	14.87	14.87	

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## TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 452- 4 CONFIGURATION LIC1E1B3PTIR1RE THETA 3/4 = 42.0 DEG RPM 5501.

HD = 14.860 PSIA P1MF = 13.321 PSIA ISC = 76.85 DEG F RHD = 0.00214 SLUGS/CU FT

M = 0.4115 V = 460.43 FPS Q = 226.930 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	493.91	478.03	462.22	462.22	446.78	440.75	436.18	432.34	333.57	433.62	441.96

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.60	14.68	14.79	14.90	14.97	14.98	15.00	15.01	15.03	13.51	15.03	15.05	15.06

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.73	15.06	15.06	15.06	15.05	15.05	15.04	14.80	14.76	14.21	14.86	14.87



TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FI TEST SECTION

PRESSURE DATA

RUN - PT NO 453- 3 CONFIGURATION 11C1E1B3PT1R1R1E THEIA 3/4 = 46.0 DEG RPM 6002

HO = 14.860 PSIA PINE = 13.969 PSIA ISC = 72.81 DEG F RHO = 0.00223 SLUGS/CU FI

M = 0.3083 V = 366.18 FPS Q = 133.716 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	439.25	435.13	420.98	419.41	402.59	396.85	390.26	386.05	320.67	378.78	399.00

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.81	14.92	14.99	15.05	15.08	15.11	15.15	15.20	15.25	14.13	15.33	15.36	15.38

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.42	15.42	15.34	15.42	15.43	15.44	15.41	14.83	15.17	14.53	14.87	14.87

**E330590 - 1**

## ~~HSD SHROUDED PROPELLER TEST~~

**PHASE I - 8 FY TEST SECTION**

**PRESSURE DATA**

RUN -	PT NO	456- 4	CONFIGURATION IIC <sub>1</sub> EIR3PRTIURE	THETA 3/4 =	46.0 DEG	RPM	6002.
-------	-------	--------	--	-------------	----------	-----	-------

HO = 14.859 PSIA    PINF = 13.312 PSIA    TSC = 73.46 DEG F    RHO = 0.00215 SLUGS/CU FT

M = 0.4127    V = 460.24 FPS    Q = 228.059 PSF    PSI = 0.    DEG

### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	529.41	517.77	500.92	499.56	480.91	475.26	469.02	463.26	362.18	461.57	476.03

**EXIT RAKE PRESSURES, PSIA**

[illegible]

	14	15	16	17	18	19	20	21	22	23	24	25
ORJICE												
RE	15.27	15.30	15.24	15.33	15.35	15.36	15.36	14.80	15.02	14.23	14.85	14.85

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FI TEST SECTION

## PRESSURE DATA

RUN - FI NO 455- 6 CONE/CORATION' LICIEIR3PTIRIRE THEIA 3/4 = 46.0 DEG RPM 5500.  
HO = 14.869 PSIA PINE = 12.550 PSIA ISC = 80.75 DEG F RHO = 0.00204 SLUGS/CU FI  
M = 0.5146 V = 572.55 FPS Q = 333.917 PSF NSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	608.83	584.96	565.93	565.31	547.69	540.61	536.72	530.18	502.10	529.62	551.20

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.29	14.48	14.70	14.87	14.94	14.93	14.95	14.96	14.97	12.91	14.86	14.96	14.97

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.97	14.97	14.88	14.98	14.97	14.95	14.93	14.79	14.56	13.74	14.86	14.87

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 456- 6 CONFIGURATION 11C1E1B3PRI1R1R6 THEIA 3/4 = 50.0 DEG RPM 5502.

HD = 14.877 PSIA PINE = 13.327 PSIA JSC = 75.55 DEG F RHD = 0.00215 SLUGS/CU FT

M = 0.4128 V = 161.29 FPS Q = 228.478 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	530.05	516.53	499.13	498.43	479.36	474.29	470.72	464.09	448.89	460.19	484.17

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.68	14.78	14.85	14.89	14.96	15.02	15.10	15.15	15.19	13.59	15.19	15.24	15.27

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.28	15.31	15.26	15.33	15.35	15.36	15.35	14.83	15.04	14.22	14.88	14.88

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 457- 3 CONFIGURATION L1C1E1B3PRI1R1RE THEIA 3/4 = 50.0 DEG RPM 5508.  
 HQ = 14.870 PSIA P1NF = 12.551 PSIA TSC = 80.36 DEG F RHO = 0.00204 SLUGS/CU FT  
 M = 0.5146 V = 572.39 FPS Q = 333.987 PSE PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	628.20	607.15	587.22	586.00	566.91	558.13	553.80	546.79	556.24	545.50	563.59

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.38	14.51	14.68	14.85	14.97	14.85	14.85	14.85	14.86	13.22	14.82	15.03	15.06

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.06	15.06	15.06	15.16	15.16	15.16	15.13	14.82	14.71	13.79	14.88	14.88

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 3 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 460-4 CONFIGURATION LICIE183PRIIRRE THETA 3/4 = 54.0 DEG RPM 5900.

H0 = 14.854 PSIA PINF = 12.537 PSIA ISC = 84.52 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5146 V = 574.63 FPS Q = 333.679 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	658.69	642.03	618.97	618.38	595.57	587.66	582.24	574.20	447.86	570.05	589.57

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.42	14.50	14.61	14.76	14.90	14.84	14.84	14.84	14.85	13.33	14.84	14.86	14.87

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.87	14.87	15.34	15.43	15.45	15.45	15.42	14.80	14.87	13.82	14.85	14.86

E330590 - 1

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT. TEST SECTION

## PRESSURE DATA

RUN - PT NO 461-6 CONFIGURATION L1C1E1R3PT1R1RE THEIA 3/4 = 42.0 DEG RPM 5844.

HD = 14.851 PSIA PIME = 12.539 PSIA ISC = 87.65 DEG F RHO = 0.00201 SLUGS/CU FT

M = 0.5140 V = 575.60 FPS Q = 332.902 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-0.01	0.08	0.07	0.08	0.10	0.11	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
S1B	-0.01	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
S2T	0.08	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
S2B	0.08	0.07	0.08	0.08	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
S1B	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
S2T	-0.04	-0.05	-0.05	-0.04	-0.04	-0.04	-0.04	-0.04	-0.01	-0.01	-0.01	-0.01
S2B	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.04	-0.04

## INLET VELOCITIES, FPS

RIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
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## EXIT RAKE PRESSURES, PSIA

RIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.18	14.44	14.67	14.83	14.88	14.88	14.88	14.89	14.88	12.91	14.84	14.87	14.87

RIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.86	14.86	14.80	14.85	14.84	14.82	14.79	14.79	14.79	14.48	13.70	14.85	14.85

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PI NO 463-5 CONFIGURATION LIC1E1B3PWITIRE THETA 3/4 = 25.0 DEG RPM 5499.

HQ = 14.809 PSIA PINF = 14.402 PSIA ISC = 71.64 DEG F RHO = 0.00228 SLUGS/CU FT

M = 0.2065 V = 232.78 FPS Q = 61.866 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	269.48	263.58	253.91	252.67	246.39	241.25	239.95	236.00	189.18	238.75	243.12

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.75	14.80	14.85	14.89	14.91	14.89	14.89	14.90	14.92	14.44	14.93	14.92	14.93

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.93	14.93	14.93	14.93	14.93	14.93	14.93	14.91	14.82	14.63	14.80	14.81



TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 464- 5 CONFIGURATION LIC1E1B3PWITIRIRE THETA 3/4 = 30.0 DEG RPM 5499.

H0 = 14.791 PSIA PINF = 14.402 PSIA ISC = 71.64 DEG F RHO = 0.00228 SLUGS/CU FT

M = 0.2019 V = 227.65 FPS Q = 59.149 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	287.94	285.93	274.63	272.32	264.03	260.42	253.10	249.34	217.50	249.86	261.51

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.78	14.82	14.86	14.90	14.92	14.91	14.93	14.93	14.94	14.46	14.99	14.98	14.99

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.00	15.01	15.02	15.03	15.04	15.05	15.05	15.05	14.95	14.64	14.80	14.80

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 465-3 CONFIGURATION LIC1E1B3PWTIRIRE THETA 3/4 = 30.0 DEG RPM 5501.

HQ = 14.781 PSIA PINF = 13.890 PSIA TSC = 75.55 DEG F RHO = 0.00221 SLUGS/CU FT

M = 0.3093 V = 348.09 FPS Q = 133.756 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RL	366.23	352.63	341.41	340.46	329.90	325.96	325.90	320.91	222.50	326.28	325.22

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.55	14.64	14.74	14.80	14.82	14.81	14.82	14.82	14.81	13.94	14.83	14.83	14.83

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.83	14.83	14.82	14.82	14.82	14.81	14.80	14.73	14.66	14.37	14.78	14.79

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 466- 4 CONFIGURATION LIC1E1B3PWTIRIRE THETA 3/4 = 34.0 DEG RPM 5501.

HO = 14.776 PSIA PINF = 13.890 PSIA TSC = 77.37 DEG F RHO = 0.00220 SLUGS/CU FT

M = 0.3084 V = 347.77 FPS Q = 133.041 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	385.91	377.53	362.52	360.71	350.55	344.93	342.08	339.22	263.36	339.34	346.62

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.62	14.68	14.77	14.84	14.87	14.85	14.88	14.88	14.89	13.97	14.92	14.91	14.92

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.92	14.92	14.93	14.95	14.95	14.95	14.95	14.73	14.78	14.39	14.78	14.78

## TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 467- 5 CONFIGURATION LICIE183PWTTIRRE THETA 3/4 = 35.0 DEG RPM 5505.

MO = 14.770 PSIA PINF = 14.373 PSIA TSC = 74.11 DEG F RHO = 0.00227 SLUGS/CU FT

M = 0.2042 V = 230.74 FPS Q = 60.371 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	309.23	306.95	296.26	295.18	281.99	277.45	272.88	268.18	220.61	264.91	279.36

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.78	14.81	14.85	14.88	14.90	14.76	14.77	14.76	14.77	14.76	14.77	14.76	14.76
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.76	14.77	15.09	15.11	15.12	15.13	15.15	15.09	15.03	14.62	14.77	14.77	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PI NO 468- 5 CONFIGURATION LIC1E1B3PWITIRIRE THETA 3/4 = 38.0 DEG RPM 5503.

HQ = 14.752 PSIA PINF = 13.866 PSIA TSC = 75.07 DEG F RHO = 0.00220 SLUGS/CU FT

M = 0.3086 V = 347.57 FPS Q = 132.989 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RL	402.21	396.26	380.98	379.25	365.15	359.73	356.99	351.46	272.32	353.30	361.77

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.65	14.68	14.74	14.81	14.86	14.86	14.89	14.91	14.91	13.96	14.96	14.96	14.96

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.98	15.00	14.99	15.01	15.02	15.03	15.04	14.74	14.87	14.38	14.76	14.76

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 462-3 CONFIGURATION LIC1E1B3PW11R1RE THETA 3/4 = 38.0 DEG RPM 5498.

H0 = 14.747 PSIA PINF = 13.221 PSIA TSC = 80.75 DEG F RHO = 0.00211 SLUGS/CU FT

M = 0.4112 V = 461.80 FPS Q = 224.228 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	479.59	466.64	449.12	446.11	432.37	428.49	424.58	421.43	299.74	423.78	427.18

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.37	14.50	14.65	14.76	14.80	14.79	14.80	14.80	14.81	13.46	14.83	14.82	14.83

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.84	14.83	14.82	14.84	14.84	14.83	14.83	14.82	14.69	14.59	14.09	14.75	14.75

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 470-3 CONFIGURATION LICIE1B3PWTIIRRE THETA 3/4 = 38.0 DEG RPM 5501.

HO = 14.747 PSIA PINF = 13.214 PSIA TSC = 82.05 DEG F RHO = 0.00210 SLUGS/CU FT

 $\eta = 0.4122$   $V = 463.40$  FPS  $Q = 225.862$  PSF  $PSI = 0.$  DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	482.01	467.06	450.06	447.05	434.83	428.61	426.33	421.59	338.77	424.86	432.12

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.36	14.50	14.64	14.75	14.80	14.77	14.79	14.80	14.80	13.42	14.83	14.82	14.82

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.83	14.83	14.81	14.83	14.82	14.82	14.81	14.68	14.59	14.08	14.74	14.75

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 471- 5 CONFIGURATION LICIEIB3PWIIIRIRE THETA 3/4 = 40.0 DEG RPM 5501.  
HQ = 14.751 PSIA PINF = 14.352 PSIA ISC = 76.07 DEG F RHQ = 0.00226 SLUGS/CU FT  
M = 0.2047 V = 231.70 FPS Q = 60.572 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	326.30	325.76	314.65	312.60	299.01	292.52	287.00	282.51	271.88	276.55	298.88

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.75	14.84	14.88	14.90	14.91	14.90	14.93	14.95	14.96	14.41	15.03	15.07	15.10
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.13	15.15	15.16	15.18	15.20	15.21	15.21	14.93	15.06	14.61	14.76	14.76	



TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 472- 5 CONFIGURATION LICIEI83PWTIRRE THETA 3/4 = 42.0 DEG RPM 5501.

HQ = 14.752 PSIA PINF = 13.868 PSIA TSC = 75.55 DEG F RHO = 0.00220 SLUGS/CU FT

M = 0.3082 V = 346.92 FPS Q = 132.636 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	415.48	409.73	393.34	370.83	378.85	371.02	365.84	360.47	296.34	359.57	374.15

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.70	14.72	14.76	14.81	14.87	14.89	14.93	14.96	14.97	13.99	15.02	15.03	15.05

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.07	15.08	15.08	15.12	15.14	15.16	15.17	14.71	14.97	14.40	14.75	14.76

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 473- 4 CONFIGURATION LICIE183PWITIRRE THETA 3/4 = 42.0 DEG RPM 5507.

HQ = 14.752 PSIA PINF = 13.230 PSIA TSC = 82.44 DEG F RHO = 0.00210 SLUGS/CU FT

M = 0.4106 V = 461.79 FPS Q = 224.350 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RL	499.78	486.15	468.16	467.43	453.50	446.73	442.17	439.11	366.60	439.05	450.87

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.48	14.55	14.66	14.76	14.84	14.84	14.87	14.89	14.90	13.48	14.93	14.93	14.95
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.95	14.96	14.96	14.98	14.98	14.99	14.99	14.98	14.70	14.73	14.11	14.75	14.75

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 475- 5 CONFIGURATION LIC1E1B3PWT1R1RE THETA 3/4 = 46.0 DEG RPM 5499.

H0 = 14.807 PSIA PINF = 13.272 PSIA ISC = 76.72 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4116 V = 460.41 FPS Q = 226.143 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	510.84	498.81	480.78	479.37	463.78	457.97	454.23	448.31	378.75	447.02	461.99

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.59	14.64	14.72	14.82	14.90	14.93	14.96	14.99	15.01	13.57	15.02	15.07	15.10
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.12	15.13	15.12	15.14	15.16	15.18	15.19	14.75	14.90	14.16	14.81	14.81	

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 476-3 CONFIGURATION LIC1E1B3PW11R1RE THEIA 3/4 = 46.0 DEG RPM 5507.

HQ = 14.811 PSIA PINE = 12.501 PSIA TSC = 79.32 DEG F RHO = 0.00203 SLUGS/CU FT

M = 0.5147 V = 571.95 FPS Q = 332.787 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RL	613.87	593.41	570.82	569.58	552.64	546.26	541.22	536.04	414.50	536.05	547.44

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.22	14.41	14.63	14.81	14.90	14.89	14.91	14.91	14.92	12.90	14.80	14.95	14.96
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.97	14.97	14.97	14.94	14.97	14.97	14.97	14.95	14.75	14.58	13.70	14.81	14.81

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

THETA 3/4 = 46.0 DEG RPM 6503.

RUN - PT NO 477- 2 CONFIGURATION LIC1E1B3PWTIRRE

HQ = 14.811 PSIA PINF = 11.618 PSIA TSC = 86.87 DEG F RHO = 0.00190 SLUGS/CU FT

M = 0.6191 V = 685.13 FPS Q = 446.949 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	730.50	699.01	671.98	671.42	651.67	644.81	642.06	633.97	492.97	635.67	647.40

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.84	14.21	14.56	14.83	14.91	14.82	14.83	14.82	14.82	12.50	14.77	14.87	14.87
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.87	14.84	14.80	14.83	14.81	14.80	14.80	14.74	14.34	12.80	13.51	14.26	

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 478- 5 CONFIGURATION LICIE1B3PW11R1RE THETA 3/4 = 50.0 DEG RPM 5494.

HQ = 14.819 PSIA PINE = 13.282 PSIA TSC = 76.85 DEG F RHO = 0.00213 SLUGS/CCU FT

M = 0.4118 V = 460.69 FPS Q = 226.534 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	529.24	520.57	499.95	498.59	482.04	475.71	466.69	461.63	352.45	459.83	474.67

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.68	14.72	14.76	14.82	14.89	14.94	15.02	15.06	15.09	13.60	15.12	15.19	15.21
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.24	15.27	15.27	15.31	15.34	15.36	15.35	14.77	15.06	14.20	14.82	14.82	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 479- 5 CONFIGURATION LICIE1B3PWTTIRRE THETA 3/4 = 50.0 DEG RPM 5503.

H0 = 14.815 PSIA PINF = 12.504 PSIA TSC = 81.14 DEG F RHO = 0.00203 SLUGS/CU FT

M = 0.5147 V = 572.86 FPS Q = 332.817 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	637.63	618.19	595.53	594.33	575.04	566.98	560.19	551.96	472.96	550.98	572.38

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.36	14.46	14.62	14.79	14.91	14.96	15.02	15.04	15.06	12.96	14.83	15.10	15.12

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.14	15.14	15.11	15.15	15.16	15.17	15.16	14.77	14.77	13.74	14.82	14.82

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PI NO 480-2 CONFIGURATION LICIEIB3PWITIRRE THETA 3/4 = 54.0 DEG RPM 4001.

HQ = 14.819 PSIA PINE = 12.507 PSIA ISC = 80.75 DEG F RHQ = 0.00209 SLUGS/QU FT

M = 0.5147 V = 572.72 FPS Q = 332.968 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	606.29	583.98	564.27	563.02	545.31	538.88	535.84	529.72	434.86	530.07	543.15

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	12	13
RE	14.25	14.41	14.62	14.81	14.89	14.88	14.89	14.89	14.89	12.90	14.81	14.90
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.92	14.91	14.88	14.90	14.90	14.89	14.89	14.78	14.54	13.70	14.83	14.83



TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 481- 5 CONFIGURATION L1C1E1B3PWTTIRRE THETA 3/4 = 54.0 DEG RPM 5510.

HO = 14.811 PSIA PINF = 12.501 PSIA TSC = 81.27 DEG F RHO = 0.00203 SLUGS/ACU FT

M = 0.5146 V = 572.81 FPS Q = 332.592 PSF PSI = 0.1 DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	653.39	637.05	614.01	613.42	592.14	584.28	577.57	569.56	479.54	565.47	588.64

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.44	14.52	14.62	14.75	14.87	14.96	15.03	15.07	15.11	13.01	14.81	15.22	15.25

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.28	15.31	15.30	15.35	15.36	15.39	15.39	14.76	14.88	13.76	14.81	14.81

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 482-5 CONFIGURATION L1C1E1B3PWIT1R1RE THETA 3/4 = 50.0 DEG RPM 5499.

HQ = 14.809 PSIA PINF = 12.494 PSIA TSC = 80.36 DEG F RHO = 0.00203 SLUGS/CU FT

M = 0.5153 V = 573.15 FPS Q = 333.390 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	636.22	617.00	594.00	591.60	572.43	565.37	559.85	551.01	448.84	549.07	568.64

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.34	14.45	14.61	14.78	14.90	14.95	14.99	15.01	15.03	12.95	14.81	15.07	15.09
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.11	15.13	15.10	15.13	15.15	15.15	15.14	14.75	14.75	13.73	14.81	14.81	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 483-5 CONFIGURATION LICIE1B3PHITIRIRE THETA 3/4 = 50.0 DEG RPM 5504.  
 HO = 14.801 PSIA PINF = 11.630 PSIA TSC = 91.16 DEG F RHO = 0.00189 SLUGS/CU FT  
 M = 0.6168 V = 685.35 FPS Q = 443.993 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	06	07	09	10	12	13	15	V AVE
R1	735.30	703.52	678.7	656.88	650.60	646.13	635.71	570.18	636.46	658.99

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.86	14.18	14.52	14.79	14.88	14.87	14.87	14.88	14.87	12.23	14.77	14.89	14.89
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.90	14.90	14.85	14.89	14.87	14.86	14.86	14.85	14.74	14.45	12.86	13.61	14.37

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 484-3 CONFIGURATION LIC1E1B3PMTTIRIRE THETA 3/4 = 50.0 DEG RPM 5502.  
 HQ = 14.802 PSIA PINE = 11.627 PSIA YSC = 90.38 DEG F RHO = 0.00189 SLUGS/CU FT  
 M = 0.6173 V = 685.37 FPS Q = 444.570 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	734.11	703.81	680.18	676.26	657.59	649.56	647.14	638.45	483.92	636.66	650.77

#### EXIT RAKE PRESSURES- PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.85	14.18	14.22	14.79	14.87	14.87	14.87	14.87	14.88	12.58	14.79	14.88	14.89
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.29	14.89	14.85	14.88	14.88	14.87	14.85	14.85	14.73	12.92	13.69	14.41	

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 485-3 CONFIGURATION LIC1E183PWT11R1RE THETA 3/4 = 50.0 DEG RPM 5999.

HQ = 14.801 PSIA PINF = 11.623 PSIA TSC = 87.39 DEG F RHO = 0.00190 SLUGS/ACU FT

M = 0.6176 V = 683.82 FPS Q = 444.953 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
R1	743.25	711.48	686.54	682.12	664.14	653.96	650.78	641.03	418.76	642.18	649.42

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE	13.95	14.22	14.54	14.82	14.93	14.93	14.96	14.97	14.97	12.28	14.78	14.99	15.00
RE	14	15	16	17	18	19	20	21	22	23	24	25	
ORIFICE	15.00	14.99	14.94	14.97	14.95	14.94	14.93	14.74	14.42	12.90	13.72	14.51	

TABLE VII

E330590 - 1

HSC SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 486- 5 CONFIGURATION LICIEIB3PWTIIRRE THETA 3/4 = 54.0 DEG RPM 5503.  
 HQ = 14.802 PSIA PINF = 11.627 PSIA TSC = 89.60 DEG F RHO = 0.00190 SLUGS/CU FT  
 M = 0.6172 V = 684.84 FPS Q = 444.514 PSE PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	750.86	720.82	696.52	691.57	670.55	661.52	659.13	648.27	584.83	647.54	673.16

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.03	14.23	14.50	14.78	14.93	14.95	15.00	15.01	15.02	15.03	14.78	15.05	15.06
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.08	15.08	15.05	15.05	15.05	15.04	15.05	14.73	14.54	12.91	13.85	14.63	

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 487- 5 CONFIGURATION LIC1E1B3PWT11R1RE THETA 3/4 = 58.0 DEG RPM 5500.

H0 = 14.809 PSIA P INF = 11.634 PSIA TSC = 89.47 DEG F RHO = 0.00190 SLUGS/CU FT

M = 0.6170 V = 684.58 FPS Q = 444.548 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	765.23	735.42	710.89	706.00	684.04	674.02	670.10	659.37	554.74	658.95	681.88

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.14	14.28	14.50	14.74	14.90	14.80	14.80	14.80	14.80	14.81	14.81	14.81	14.81
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.83	14.82	15.20	15.22	15.23	15.24	15.26	14.75	14.38	12.95	13.95	14.72	

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 488- 5 CONFIGURATION LIC1E1B3PWT11R1READ THETA 3/4 = 30.0 DEG RPM 5502.

HQ = 14.819 PSIA PINE = 13.921 PSIA TSC = 78.41 DEG F RHO = 0.00220 SLUGS/CU FT

M = 0.3101 V = 349.91 FPS Q = 134.754 PSF PSL = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	368.34	355.05	345.87	342.10	334.40	331.49	326.59	324.61	286.48	325.45	334.04

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.58	14.68	14.77	14.84	14.86	14.82	14.82	14.81	14.82	14.82	14.82	14.82	14.82
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.82	14.82	14.22	14.87	14.86	14.86	14.85	14.78	14.70	14.38	14.82	14.81	



# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 489- 4 CONFIGURATION LIC1E183PW11R1READ THETA 3/4 = 38.0 DEG RPM 6004.

H0 = 14.819 PSIA PINF = 13.933 PSIA TSC = 75.42 DEG F RHO = 0.00221 SLUGS/ACU FT

M = 0.3079 V = 346.55 FPS Q = 132.992 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	410.55	404.99	391.77	388.42	376.49	370.40	365.10	361.53	260.20	257.96	368.74

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.74	14.78	14.83	14.89	14.95	14.82	14.81	14.81	14.82	14.82	14.82	14.82	14.82

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.82	14.81	14.37	15.18	15.19	15.21	15.23	14.79	15.03	14.43	14.82	14.82

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 490- 5 CONFIGURATION LICIE1B3PWITIRI READ THEIA 3/4 = 38.0 DEG RPM 5497.  
 HQ = 14.815 PSIA PINE = 13.282 PSIA TSC = 79.97 DEG F RHO = 0.00212 SLUGS/CU FT  
 M = 0.4113 V = 461.56 FPS Q = 226.051 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	477.97	463.33	448.58	444.83	431.93	426.50	422.58	418.62	367.54	419.73	432.16

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.41	14.55	14.70	14.82	14.87	14.82	14.81	14.81	14.82	14.82	14.82	14.82	14.82
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.82	14.82	13.86	14.90	14.90	14.90	14.90	14.89	14.77	14.66	14.09	14.81	14.81

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PI NO 491-3 CONFIGURATION LIC1E1B3PWT11R1READ THETA 3/4 = 46.0 DEG RPM 5007.

HQ = 14.820 PSIA PINE = 13.297 PSIA ISC = 79.32 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4097 V = 459.52 FPS Q = 224.536 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	491.13	477.33	459.31	459.31	445.89	441.37	436.81	430.86	337.87	432.35	441.20

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.55	14.61	14.72	14.83	14.90	14.93	14.96	14.96	14.97	14.99	14.83	15.01	15.03

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.04	15.04	13.96	15.04	15.04	15.05	15.04	15.06	14.79	14.80	14.14	14.82	14.83

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 492- 5 CONFIGURATION LICIE183PWITIRI READ THETA 3/4 = 46.0 DEG RPM 5497.

MO = 14.819 PSIA PINF = 12.512 PSIA TSC = 92.72 DEG F RHO = 0.00199 SLUGS/ACU FT

M = 0.5140 V = 578.29 FPS Q = 332.221 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RL	612.94	590.27	571.18	567.39	552.48	547.29	540.10	534.82	492.76	533.41	554.26

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.19	14.40	14.63	14.82	14.90	14.82	14.81	14.80	14.81	14.81	14.82	14.82	14.83

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.82	14.82	13.39	14.95	14.94	14.94	14.95	14.94	14.78	14.16	13.64	14.82	14.82

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 493- 4 CONFIGURATION LIC1E1B3PWTIRI READ THETA 3/4 = 54.0 DEG RPM 5733.

H0 = 14.820 PSIA PINF = 12.510 PSIA TSC = 89.47 DEG F RHO = 0.00200 SLUGS/CU FT

M = 0.5144 V = 577.00 FPS Q = 332.664 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	657.87	642.32	620.97	618.02	598.36	589.83	593.17	574.48	447.45	570.54	590.30

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.44	14.55	14.65	14.77	14.90	14.82	14.81	14.82	14.81	14.81	14.82	14.84	14.83

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.83	14.83	13.61	15.39	15.42	15.44	15.44	14.77	14.36	13.72	14.82	14.82

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 494- 4 CONFIGURATION LIC1E1B3PWT11R1READ THETA 3/4 = 46.0 DEG RPM 6003.

HQ = 14.830 PSIA PINF = 13.292 PSIA YSC = 85.05 DEG F RHO = 0.00210 SLUGS/CCU FT

M = 0.4117 V = 464.15 FPS Q = 226.651 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	529.70	520.32	502.03	499.97	483.91	477.50	469.66	462.36	354.60	460.15	476.02

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.66	14.70	14.77	14.86	14.94	14.84	14.83	14.84	14.84	14.84	14.84	14.84	14.85
GRIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.85	14.85	14.08	15.33	15.36	15.38	15.39	14.80	15.10	14.17	14.84	14.84	

# TABLE VII

E330590 - 1

## HSC SHRIMPED PROPELLER TEST PHASE I - 3 FT TEST SECTION

### PRESSURE DATA

RUN - PT NO 405-4 CONFIGURATION LIC1E1B3PWTIRING THETA 3/4 = 46.0 DEG RPM 6001.  
 HO = 14.325 PSIA PINF = 13.292 PSIA TSC = 82.05 DEG F RHO = 0.00212 SLUGS/CU FT  
 M = 0.4112 V = 462.20 FPS C = 226.030 PSF PSI = 0. DEG

### INLET VELOCITIES, FPS

ORIFICE	01	02	03	04	06	07	09	10	12	13	15	V AVE
R1	528.35	510.97	499.57	498.87	431.96	475.49	469.76	463.15	273.99	460.76	467.19	

### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RF	14.65	14.70	14.78	14.88	14.96	15.00	15.05	15.07	15.10	15.10	14.97	15.18	15.22
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RF	15.24	15.28	14.09	15.32	15.34	15.37	15.39	14.79	15.09	14.21	14.83	14.83	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 496- 5 CONFIGURATION LICIE1B3PWTIRIND THETA 3/4 = 46.0 DEG RPM 5502.

MO = 14.825 PSIA PINE = 12.517 PSIA ISC = 87.26 DEG F RMO = 0.00201 SLUGS/CU FT

M = 0.5141 V = 575.45 FPS Q = 332.395 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	615.22	594.25	575.78	571.39	556.12	549.02	543.15	535.92	450.46	533.96	652.53

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.23	14.44	14.66	14.85	14.92	14.90	14.91	14.91	14.92	14.92	14.83	14.95	14.95

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.97	14.96	13.44	14.97	14.98	14.97	14.96	14.78	14.47	13.66	14.83	14.83



TABLE VII

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 497-5 CONFIGURATION LJC1E1B3PW11R1ND THETA 3/4 = 30.0 DEG RPM 5499.  
HQ = 14.830 PSIA PINE = 13.939 PSIA TSC = 76.72 DEG F RHO = 0.00221 SLUGS/ACU FT  
M = 0.3087 V = 347.82 FPS Q = 133.721 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	366.86	355.09	346.79	341.11	332.48	327.57	322.58	320.57	261.66	321.05	329.58

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.61	14.71	14.80	14.85	14.88	14.88	14.86	14.87	14.87	14.87	14.87	14.88	14.88
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.88	14.88	14.27	14.87	14.88	14.87	14.86	14.78	14.73	14.42	14.83	14.83	

TABLE VII

E330590 - I

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 498- 4 CONFIGURATION L1C1E1B3PW11RIND THEIA 3/4 = 38.0 DEG RPM 5998.

H0 = 14.831 PSIA PINF = 13.944 PSIA TSC = 74.37 DEG F RHO = 0.00222 SLUGS/CU FT

M = 0.3080 V = 346.29 FPS Q = 133.159 PSF PSI = 0.4 DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	413.59	409.03	394.15	390.79	377.96	372.72	367.42	362.94	263.74	359.64	371.20

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.77	14.80	14.86	14.93	14.97	15.01	15.04	15.05	15.06	15.08	15.10	15.13	15.15
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.17	15.18	14.42	15.21	15.22	15.24	15.25	14.79	15.07	14.48	14.83	14.83	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 499- 3 CONFIGURATION L1C1E1B3PWTIRIND THETA 3/4 = 38.0 DEG RPM 6003.

HQ = 14.830 PSIA PINE = 13.286 PSIA TSC = 78.67 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4127 V = 462.45 FPS Q = 227.588 PSF PSI = 0.1 DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	494.80	481.83	464.00	461.80	449.17	443.13	440.08	433.92	302.09	434.26	440.51

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.50	14.61	14.75	14.87	14.93	14.93	14.93	14.95	14.96	14.97	14.97	14.87	15.01
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.02	15.03	13.97	15.03	15.03	15.04	15.04	15.03	14.80	14.77	14.15	14.83	14.84

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 500- 4 CONFIGURATION LICIE183PWTTIRIND THETA 3/4 = 54.0 DEG RPM 5073.

HQ = 14.830 PSIA PINE = 12.520 PSIA TSC = 87.52 DEG F RHO = 0.00201 SLUGS/CU FT

M = 0.5143 V = 575.83 FPS Q = 332.744 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	655.50	643.75	621.63	619.25	599.21	591.85	584.43	576.93	415.19	571.00	587.87

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.45	14.55	14.67	14.80	14.92	14.99	15.06	15.12	15.16	15.20	14.84	15.28	15.31

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.34	15.37	13.67	15.41	15.42	15.44	15.45	14.79	14.66	13.77	14.84	14.84

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 501- 6 CONFIGURATION LICIEIB3FWTIRREIO THETA 3/4 = 42.0 DEG RPM 5500.

H0 = 14.830 PSIA PINF = 13.290 PSIA TSC = 82.05 DEG F RHO = 0.00212 SLUGS/CU FT

M = 0.4120 V = 463.16 FPS Q = 226.921 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	498.98	486.06	470.97	468.05	456.22	448.69	442.59	437.97	347.52	436.78	449.38

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.55	14.63	14.73	14.84	14.90	14.93	14.96	14.96	14.99	14.98	15.17	15.00	14.98
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.00	15.01	13.97	15.00	15.03	15.04	15.03	14.78	14.84	14.17	14.83	14.83	

# TABLE VII

E330590 - 1

## MSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 502- 4 CONFIGURATION LICIE183PWTIRIREIO THETA 3/4 = 46.0 DEG RPM 5995.

MO = 14.831 PSIA PINF = 13.290 PSIA ISC = 80.75 DEG F RHO = 0.00212 SLUGS/ACU FT

M = 0.4121 V = 462.74 FPS Q = 227.059 PSF PSI = 0.2 DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	529.02	522.66	503.54	501.47	485.44	479.01	471.05	467.40	326.84	461.35	474.78

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.68	14.76	14.81	14.88	14.94	14.99	15.06	15.11	15.14	15.18	15.13	15.25	15.28

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.31	15.33	14.14	15.36	15.36	15.36	15.36	14.79	14.99	14.23	14.84	14.84

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - FT NO 503- 5 CONFIGURATION LIC1E183PWT1R1RE10 THEIA 3/4 = 46.0 DEG RPM 5500.

P0 = 14.830 PSIA P1ME = 12.517 PSIA ISC = 90.12 DEG F RHO = 0.00200 SLUGS/CU FT

M = 0.5146 V = 577.50 FPS Q = 333.055 PSF PSI = 0.4 DEG

## INLET VELOCITIES, FPS

ORIFICE	U1	03	04	06	07	09	10	12	13	15	V AVE
RI	615.28	596.10	575.90	573.37	556.76	549.62	543.72	537.78	494.72	537.12	558.04

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.12	14.39	14.60	14.76	14.84	14.84	14.84	14.86	14.88	14.87	14.89	14.82	14.91
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.96	14.95	13.46	14.96	14.95	14.96	14.96	14.99	14.77	14.67	13.73	14.83	14.83

## TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 504- 4 CONFIGURATION LICIE1B3PMITIRREIO THETA 3/4 = 50.0 DEG RPM 6006.

HQ = 14.838 PSIA PINE = 12.524 PSIA TSC = 84.91 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5146 V = 574.76 FPS Q = 333.244 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	648.33	633.68	609.56	608.36	589.05	580.40	574.90	566.10	440.19	563.09	581.37

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.44	14.56	14.67	14.81	14.92	14.99	15.08	15.14	15.17	15.22	14.83	15.28	15.29
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.31	15.33	13.66	15.31	15.31	15.33	15.32	15.33	14.80	14.67	13.81	14.84	14.85



TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 505- 6 CONFIGURATION LICIE183PMTTIRIREVO THETA 3/4 = 50.0 DEG RPM 5506.  
MO = 14.858 PSIA PINF = 12.545 PSIA ISC = 86.48 DEG F RHO = 0.00201 SLUGS/CU FT  
M = 0.5141 V = 575.06 FPS Q = 333.146 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	631.33	613.98	595.15	592.09	576.10	569.82	559.76	551.41	482.65	549.80	572.21

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.35	14.50	14.69	14.87	14.99	15.02	15.05	15.09	15.09	15.11	14.92	15.14	15.15
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.18	15.19	13.62	15.20	15.21	15.22	15.23	14.80	14.79	13.86	14.86	14.86	

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 506- 7 CONFIGURATION LIC1E1B3PWT1R1REVO THETA 3/4 = 42.0 DEG RPM 5503.

HQ = 14.874 PSIA JME = 13.328 PSIA TSC = 78.15 DEG F RHO = 0.00214 SLUGS/ACU FT

M = 0.4123 V = 461.78 FPS Q = 227.864 PSF PSI = 0.1 DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RE	497.56	485.45	467.75	467.02	453.18	450.20	442.69	438.33	407.07	439.26	554.83

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.56	14.65	14.78	14.91	14.98	15.00	15.02	15.03	15.04	15.04	15.05	15.06	15.08
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.10	15.12	14.05	15.12	15.12	15.12	15.12	14.82	14.84	14.25	14.88	14.88	

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 508- 6 CONFIGURATION 11C1E183PW11R1REVO THETA 3/4 = 46.0 DEG RPM 5550.

M0 = 14.887 PSIA PINE = 12.558 PSIA ISC = 82.57 DEG F RHO = 0.00209 SLUGS/QU FT

M = 0.5155 V = 574.47 FPS Q = 335.301 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	615.28	594.95	575.57	571.84	556.74	552.28	543.27	536.77	466.23	539.78	555.27

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.27	14.49	14.71	14.90	14.99	14.99	15.01	15.01	15.03	15.03	14.92	15.05	15.07

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.07	15.07	13.57	15.07	15.07	15.08	15.08	14.83	14.68	13.87	14.89	14.89

# TABLE VII

E330590 - 1

## MSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 509- 2 CONFIGURATION LICIE283PHTTIRRE THETA 3/4 = 30.0 DEG RPM 5656.

HQ = 14.909 PSIA PINF = 14.024 PSIA TSC = 71.64 DEG F RHQ = 0.00224 SLUGS/QU FT

H = 0.3067 V = 344.01 FPS Q = 132.833 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	391.72	382.16	368.50	365.86	355.98	351.44	346.84	344.06	203.54	346.14	345.61

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.66	14.77	14.88	14.93	14.93	14.93	14.93	14.93	14.92	14.92	14.92	14.91	14.92
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.92	14.91	14.37	14.90	14.90	14.89	14.89	14.89	14.83	14.87	14.81	14.44	14.91

# TABLE VII

E330590 - I

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

### PRESSURE DATA

RUN - PT NO 510-3 CONFIGURATION LIC1E2B3PWTIRRE THETA 3/4 = 34.0 DEG RPM 6006.

HQ = 14.909 PSIA PINF = 14.003 PSIA TSC = 72.94 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3105 V = 348.62 FPS Q = 135.935 PSF PSI = 0. DEG

### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	427.08	422.93	407.13	403.91	390.85	384.14	379.89	373.87	280.84	372.65	984.33

### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.72	14.79	14.88	14.97	15.01	15.01	15.01	15.02	15.03	15.02	15.03	15.04	15.04
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.06	15.06	14.42	15.05	15.05	15.05	15.05	14.85	15.04	14.96	14.44	14.91	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 511-6 CONFIGURATION LIC1E2B3PW11R1RE THETA 3/4 = 36.0 DEG RPM 5504.

M0 = 14.908 PSIA PINF = 14.013 PSIA ISC = 74.76 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3086 V = 347.13 FPS Q = 134.383 PSF PSI = C<sub>2</sub> DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	436.27	429.77	417.79	413.01	400.03	393.40	385.83	380.70	357.30	380.01	399.39

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.76	14.81	14.88	14.96	15.01	15.00	15.03	15.03	15.04	15.04	15.05	15.06	15.07
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.07	15.08	14.44	15.10	15.10	15.11	15.11	14.85	15.11	15.03	14.44	14.91	

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 512- 2 CONFIGURATION LICIE2B3PWTIRRE THETA 3/4 = 38.0 DEG RPM 5607.

HQ = 14.912 PSIA PINF = 13.372 PSIA TSC = 78.15 DEG F RHO = 0.00214 SLUGS/FT<sup>3</sup>

M = 0.410° V = 460.31 FPS Q = 227.109 PSF PSI = 0.4 DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	520.97	510.63	492.86	490.08	475.81	470.08	462.26	457.86	352.65	459.94	469.30

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.45	14.64	14.79	14.91	14.91	14.93	14.93	14.92	14.93	14.92	14.93	14.92	14.93
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.92	14.92	14.00	14.90	14.89	14.89	14.88	14.87	14.87	14.77	14.12	14.92	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 513- 4 CONFIGURATION LICIE283PWTIRRE THETA 3/4 = 42.0 DEG RPM 6001.

MO = 14.913 PSIA PIRIF = 14.006 PSIA TSC = 71.64 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3106 V = 348.25 FPS Q = 136.014 PSF PSI = 0.1 DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	476.15	475.06	456.32	454.86	436.24	430.15	420.15	414.64	368.19	409.10	434.09

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.83	14.88	14.91	14.98	15.04	15.07	15.12	15.14	15.15	15.16	15.19	15.21	15.24
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.25	15.27	14.53	15.32	15.34	15.36	15.38	14.87	15.38	15.30	14.47	14.92	



TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 514- 3 CONFIGURATION L1C1E2B3PW11R1RE THETA 3/4 = 42.0 DEG RPM 5002.

HQ = 14.913 PSIA PINE = 13.359 PSIA ISC = 74.24 DEG F RHO = 0.00216 SLUGS/QU FT

M = 0.4128 V = 460.68 FPS Q = 228.980 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	558.35	554.76	532.67	531.37	512.98	506.28	498.15	492.67	966.79	490.44	504.45

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.59	14.68	14.82	14.94	15.02	15.03	15.06	15.07	15.08	15.09	15.11	15.12	15.13

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.13	15.14	14.12	15.14	15.15	15.15	15.15	14.86	15.14	15.03	14.12	14.91

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUM - PT NO 515- 3 CONFIGURATION 11C1E283PWT11R1RE THETA 3/4 = 42.0 DEG RPM 6501.

MO = 14.916 PSIA PINE = 12.584 PSIA TSC = 84.65 DEG F RHO = 0.00203 SLUGS/ACU FT

M = 0.5153 V = 575.39 FPS Q = 335.777 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	669.05	654.20	630.73	627.24	608.42	599.45	591.21	583.27	480.40	582.96	602.69

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.14	14.48	14.74	14.93	14.98	14.96	14.98	14.97	14.97	14.96	14.94	14.96	14.95

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.95	14.94	13.52	14.88	14.86	14.86	14.83	14.82	14.86	14.81	13.64	14.91

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 516-5 CONFIGURATION LIC1E2B3PHITIRE THETA 3/4 = 46.0 DEG RPM 5502.

MO = 14.916 PSIA PINE = 13.366 PSIA TSC = 77.37 DEG F RHO = 0.00215 SLUGS/CU FT

M = 0.4122 V = 461.40 FPS Q = 228.462 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RE	562.92	557.92	538.18	536.25	517.88	509.86	499.08	494.96	486.72	492.28	619.60

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.63	14.70	14.82	14.94	15.02	15.05	15.08	15.10	15.10	15.12	15.07	15.13	15.15
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.16	15.17	14.12	15.17	15.18	15.18	15.19	14.88	15.18	15.06	14.12	14.92	

# TABLE VII

E330590 -

## HSD SHROUDED PROPELLER TEST

### PHASE I -- 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 517- 5 CONFIGURATION LIC1E2B3PWTIIRRE THETA 3/4 = 46.0 DEG RPM 6253.

HQ = 14.913 PSIA PINE = 12.595 PSIA TSC = 81.14 DEG F RHO = 0.00204 SLUGS/CU FT

M = 0.5136 V = 571.76 FPS Q = 333.884 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	684.62	673.49	651.26	648.99	628.16	618.81	608.50	600.13	547.65	597.84	625.94

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.22	14.48	14.74	14.94	15.04	15.03	15.06	15.06	15.07	15.07	14.90	15.09	15.09

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.09	15.08	13.62	15.03	15.03	15.03	15.01	14.99	14.87	15.01	14.81	13.68	14.92

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 518-5 CONFIGURATION L1C1E2B3PW11R1RE THETA 3/4 = 50.0 DEG RPM 5500.

HQ = 14.918 PSIA PINE = 13.368 PSIA ISC = 76.07 DEG F RHO = 0.00215 SLUGS/CCU FT

M = 0.4122 V = 460.82 FPS Q = 228.469 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	583.70	580.67	561.72	557.97	538.96	529.27	520.09	510.78	494.33	506.57	538.41

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.67	14.74	14.82	14.93	15.01	15.05	15.10	15.13	15.14	15.16	14.96	15.22	15.24

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.26	15.28	14.20	15.30	15.32	15.34	15.35	14.88	15.37	15.23	14.15	14.92

TABLE VII

E330590 - 1

## MSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 519-2 CONFIGURATION LIC1E2B3PWTIRIRE THETA 3/4 = 50.0 DEG RPM 5498.

HQ = 14.913 PSIA PINE = 12.578 PSIA TSC = 78.67 DEG F RHO = 0.00205 SLUGS/ACU FT

M = 0.5157 V = 572.62 FPS Q = 336.186 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	689.91	677.94	655.73	654.61	635.21	625.42	616.33	607.51	472.91	602.91	623.79

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.28	14.48	14.70	14.92	15.02	15.04	15.05	15.07	15.07	15.07	14.91	15.09	15.09

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.11	15.11	13.65	15.08	15.08	15.09	15.08	14.87	15.06	14.87	13.64	14.91

E330590 - 1

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 520-3 CONFIGURATION L1C1E2B3PWITIRE THEIA 3/4 = 54.0 DEG RPM 5506.

MO = 14.918 PSIA PINE = 12.594 PSIA ISC = 79.97 DEG F RHO = 0.00205 SLUGS/CU FT

M = 0.5143 V = 571.86 FPS Q = 334.731 PSF PSI = 0. DBG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	14	15	V AVE
R1	707.04	698.94	671.55	669.33	648.00	640.02	632.78	624.89	520.69	620.95	649.33

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.40	14.53	14.70	14.89	15.02	15.08	15.14	15.17	15.19	15.21	14.90	15.25	15.25

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.27	15.29	13.75	15.28	15.28	15.26	15.26	15.28	14.87	15.25	15.00	13.67	14.92

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 521-4 CONFIGURATION LIC1E2B3PMTTIRRE THETA 3/4 = 54.0 DEG RPM 5509.

HQ = 14.919 PSIA PIMF = 12.584 PSIA TSC = 80.36 DEG F RHO = 0.00204 SLUGS/CU FT

M = 0.5156 V = 573.39 FPS Q = 336.107 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
R1	710.64	700.95	674.51	671.74	651.42	642.32	634.51	624.07	551.02	621.74	648.38

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE RE	14.38	14.52	14.69	14.88	15.03	15.08	15.14	15.17	15.19	15.21	14.89	15.25	15.25
ORIFICE RE	14	15	16	17	18	19	20	21	22	23	24	25	
	15.27	15.28	13.75	15.27	15.25	15.27	15.28	14.87	15.20	14.99	13.66	14.92	



TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FI TEST SECTION

PRESSURE DATA

RUN - PI NO 522-5 CONFIGURATION LICIE3B3PWITIRIRE THEIA 3/4 = 34.0 DEG RPM 5800.

HQ = 14.919 PSIA PINE = 14.026 PSIA ISC = 70.34 DEG F RHO = 0.00225 SLUGS/CU FI

M = 0.3281 V = 345.12 FPS Q = 134.053 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	445.13	442.90	427.77	424.69	409.78	402.56	394.46	388.66	332.26	387.61	405.58

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.65	14.76	14.87	14.94	14.98	14.97	14.97	14.98	14.98	14.98	14.98	14.98	14.97

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.98	14.98	14.97	14.97	14.97	14.96	14.95	14.86	14.94	14.93	14.82	14.34

TABLE VII

E330590 - I

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 523-2 CONFIGURATION L1C1E3B3PHTTIRRE TETA 3/4 = 38.0 DEG RPM 5505.

H0 = 14.918 PSIA PINE = 14.018 PSIA TSC = 69.56 DEG F RHQ = 0.00226 SLUGS/SEC FT

H = 0.3094 V = 346.30 FPS Q = 135.109 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	459.92	459.04	440.56	439.06	420.79	413.73	407.44	401.80	309.88	398.84	419.01

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.70	14.78	14.88	14.95	15.00	15.00	15.01	15.01	15.01	15.02	15.03	15.03	15.03
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.03	15.04	15.05	15.04	15.04	15.04	15.04	15.03	14.85	15.03	15.02	14.91	14.34

E330590 - 1

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - 9T NO 529- 4 CONFIGURATION LIC1E383PWTIRIRE THETA 3/4 = 50.0 DEG RPM 6000.

H0 = 14.851 PSIA PINF = 13.316 PSIA TSC = 79.06 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4109 V = 460.76 FPS Q = 226.216 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V-AVE
R1	645.41	649.85	614.64	615.82	599.15	597.95	575.58	571.86	325.79	565.06	576.11

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.52	14.67	14.75	14.85	14.96	15.02	15.07	15.10	15.14	15.16	15.16	15.23	15.25

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.26	15.28	15.29	15.29	15.29	15.31	15.33	14.80	15.33	15.23	15.00	13.95

E330590 - 1

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 530- 2 CONFIGURATION LIC1E383PWTIRIRE THETA 3/4 = 50.0 DEG RPM 5498.

HO = 14.848 PSIA PINF = 12.537 PSIA TSC = 85.96 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5140 V = 574.74 FPS Q = 332.884 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V-AVE
R1	721.84	717.98	689.73	684.16	664.17	662.46	647.83	646.67	373.99	643.70	645.25

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.95	14.38	14.67	14.86	14.93	14.90	14.91	14.90	14.90	14.89	14.85	14.89	14.89
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.88	14.88	14.86	14.82	14.79	14.78	14.76	14.76	14.77	14.76	14.23	13.40	

TABLE VII

E330590 - 1

## MSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 531- 2 CONFIGURATION L1C1E3B3PWT1R1RE THETA 3/4 = 50.0 DEG RPM 5500.

H0 = 14.830 PSIA PINF = 12.522 PSIA TSC = 92.98 DEG F RHD = 0.00199 SLUGS/CU FT

M = 0.5140 V = 578.38 FPS Q = 332.433 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	724.84	722.67	689.45	685.53	669.83	666.40	647.95	648.53	465.44	646.21	656.69

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.95	14.36	14.65	14.85	14.91	14.89	14.89	14.88	14.88	14.88	14.80	14.86	14.87

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.87	14.85	14.84	14.81	14.78	14.76	14.75	14.78	14.72	14.74	14.15	13.30

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 532- 6 CONFIGURATION LIC1E3B3PWT1R1RE THETA 3/4 = 58.0 DEG RPM 5502.

HO = 14.820 PSIA PINF = 12.515 PSIA TSC = 98.19 DEG F RHO = 0.00197 SLUGS/CU FT

M = 0.5138 V = 580.94 FPS Q = 332.042 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	766.93	772.76	738.52	730.36	714.42	710.54	686.43	685.30	537.98	680.77	702.40

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.21	14.41	14.62	14.80	14.92	14.94	14.97	14.97	14.97	15.00	14.81	15.04	15.04

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.06	15.09	15.10	15.09	15.09	15.10	15.10	14.79	14.77	15.11	14.51	13.36

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 533- 4 CONFIGURATION LIC1E383PWT1R1RE THETA 3/4 = 54.0 DEG RPM 5943.

MO = 14.811 PSIA PINF = 13.278 PSIA TSC = 85.83 DEG F RHO = 0.00210 SLUGS/CU FT

M = 0.4112 V = 463.89 FPS Q = 225.827 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
R1	661.85	667.59	631.26	629.50	611.84	612.44	591.36	590.13	442.67	580.24	601.89

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE RE	14.51	14.68	14.75	14.82	14.90	14.97	15.05	15.12	15.17	15.21	14.83	15.28	15.31
ORIFICE RE	14	15	16	17	18	19	20	21	22	23	24	25	
	15.32	15.33	15.33	15.33	15.35	15.36	15.37	15.40	14.78	15.40	15.95	15.00	15.93

E330590 - 1

TABLE VII

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 534- 5 CONFIGURATION LIC1E3B3PMTTIRI READ THETA 3/4 = 38.0 DEG RPM 5502.

H0 = 14.796 PSIA PINF = 13.892 PSIA TSC = 78.15 DEG F RHD = 0.00220 SLUGS/CU FT

M = 0.3113 V = 351.20 FPS Q = 135.549 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V-AVE
R1	464.22	463.15	444.53	438.43	426.80	424.44	406.78	405.15	301.94	402.18	417.76

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.54	14.64	14.76	14.84	14.83	14.87	14.89	14.89	14.89	14.90	14.99	14.91	14.92

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.93	14.92	14.93	14.93	14.93	14.93	14.93	14.93	14.76	14.92	14.71	14.24



TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RJN - PT NO 535- 2 CONFIGURATION LIC1E383PWTTR1READ THETA 3/4 = 42.0 DEG RPM 5503.

HO = 14.791 PSIA PINF = 13.259 PSIA TSC = 79.97 DEG F RHO = 0.00212 SLUGS/CU FT

M = 0.4115 V = 461.69 FPS Q = 225.802 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	564.30	563.68	536.05	532.78	518.29	516.28	502.60	500.54	298.05	498.70	503.13

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.29	14.51	14.68	14.80	14.84	14.83	14.83	14.84	14.84	14.84	14.82	14.84	14.84
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.84	14.84	14.83	14.82	14.82	14.81	14.80	14.75	14.80	14.79	14.47	13.90	

E330590 - 1

TABLE VII

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 536- 4 CONFIGURATION L1C1E3B3PWTTIRI READ THETA 3/4 = 45.0 DEG RPM 5999.

H0 = 14.776 PSIA PINF = 13.892 PSIA TSC = 76.85 DEG F RHD = 0.00220 SLUGS/CU FT

M = 0.3080 V = 347.11 FPS Q = 132.689 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V-AVE
R1	529.82	536.90	505.17	501.06	485.03	480.78	462.80	459.12	340.65	451.28	475.26

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	13
RE	14.69	14.78	14.82	14.86	14.94	14.98	15.02	15.04	15.07	15.08	15.07	15.15
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.20	15.23	15.23	15.28	15.31	15.33	15.35	14.75	15.37	15.32	15.11	14.30

TABLE VII

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 537- 6 CONFIGURATION L1C1E3B3PWTIIR1READ THETA 3/4 = 50.0 DEG RPM 5500.

HQ = 14.770 PSIA PINF = 12.468 PSIA TSC = 98.84 DEG F RHO = 0.00196 SLUGS/CU FT

M = 0.5145 V = 581.95 FPS Q = 331.594 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V-AVE
R1	723.70	721.52	689.41	682.03	667.56	664.67	645.61	645.02	519.89	643.80	660.32

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.92	14.32	14.61	14.80	14.85	14.83	14.84	14.84	14.84	14.84	14.77	14.83	14.94
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.83	14.82	14.79	14.77	14.76	14.75	14.74	14.73	14.71	14.73	14.80	13.37	

TABLE VII

HSD SHROUDED PROPELLER TEST

PHASE I -- 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 538- 4 CONFIGURATION LICIE383PWTIRI READ THETA 3/4 = 50.0 DEG RPM 5702.

H0 = 14.763 PSIA PINF = 12.231 PSIA TSC = 85.83 DEG F RHO = 0.00209 SLUGS/CU FT

M = 0.4118 V = 464.60 FPS Q = 225.736 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V-AVE
R1	633.43	638.12	604.98	604.38	588.32	584.60	563.26	561.34	446.01	551.17	577.56

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.45	14.56	14.67	14.79	14.89	14.93	14.97	14.99	15.01	15.04	14.77	15.09	15.11
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.12	15.14	15.14	15.16	15.16	15.18	15.19	14.73	15.19	15.16	14.77	15.66	

E330590 - 1

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

R2N - PT NO 539- 2 CONFIGURATION L1C1E483PWTIRIRE THETA 3/4 = 38.0 DEG RPM 5501.

M1 = 14.728 PSIA P1MF = 13.851 PSIA TSC = 77.24 DEG F RHO = 0.00219 SLUGS/CU FT

M = 0.3071 V = 346.24 FPS Q = 131.526 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	V-AVE
R1	365.83	353.64	342.97	340.09	333.32	332.33	326.36	326.36	326.36	181.01	329.70	323.16				

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.50	14.61	14.70	14.75	14.78	14.77	14.78	14.77	14.77	14.78	14.77	14.78	14.77

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.78	14.78	14.77	14.77	14.76	14.76	14.76	14.76	14.70	14.68	13.93	14.34	14.73

E330590 - 1

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 540- 6 CONFIGURATION L1C1E483PWTIRIRE THETA 3/4 = 34.0 DEG RPM 5499.

HO = 14.714 PSIA PINF = 13.836 PSIA TSC = 82.57 DEG F RHO = 0.00217 SLUGS/CU FT

M = 0.3077 V = 348.58 FPS Q = 131.849 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V-AVE
R1	389.84	383.77	372.12	366.70	360.29	358.44	347.14	346.18	300.08	344.98	356.95

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.53	14.60	14.69	14.76	14.79	14.79	14.80	14.81	14.82	14.82	14.94	14.84	14.84
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.83	14.83	14.83	14.86	14.86	14.87	14.87	14.86	14.68	14.76	13.93	14.99	14.71

TABLE VII

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 541- 4 CONFIGURATION LIC1E4B3PWTIRIRE THETA 3/4 = 30.0 DEG RPM 6006.

MO = 14.711 PSIA PINF = 13.833 PSIA TSC = 75.55 DEG F RHO = 0.00220 SLUGS/CU FT

M = 0.3077 V = 346.33 FPS Q = 131.844 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	415.19	413.32	391.86	389.32	380.74	379.00	371.09	367.53	222.89	363.70	369.46

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.64	14.67	14.72	14.79	14.85	14.87	14.90	14.93	14.94	14.95	14.98	15.00	15.01
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.04	15.05	15.09	15.06	15.06	15.08	15.09	15.11	14.68	15.00	15.97	14.51	14.71

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TABLE VII

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 542-2 CONFIGURATION L1C1E4B3PWT1R1RE THETA 3/4 = 38.0 DEG RPM 5503.

H0 = 14.708 PSIA PINF = 13.180 PSIA TSC = 75.55 DEG F RHD = 0.00212 SLUGS/CU FT

M = 0.4121 V = 460.47 FPS Q = 225.145 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	04	04	07	09	10	12	13	15	V-AVE
R1	480.06	468.96	446.79	443.75	434.61	433.83	428.29	425.14	262.51	430.05	425.40	

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.30	14.45	14.60	14.71	14.76	14.75	14.75	14.76	14.75	14.76	14.77	14.75	14.78
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.78	14.78	14.78	14.78	14.77	14.77	14.77	14.77	14.66	14.65	14.96	14.86	14.71



TABLE VII

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HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 543- 4 CONFIGURATION L1C1E483PWTIRIRE THETA 3/4 = 42.0 DEG RPM 5999.

H0 = 14.708 PSIA PINF = 13.825 PSIA TSC = 73.46 DEG F RHO = 0.00221 SLUGS/CU FT

M = 0.3086 V = 346.66 FPS Q = 132.541 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

DRIFICE	01	03	04	06	07	09	10	12	13	15	V-AVE
R1	437.10	438.35	415.76	414.16	402.78	400.31	388.59	385.18	308.10	381.75	397.21

EXIT RAKE PRESSURES, PSIA

DRIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.67	14.72	14.75	14.80	14.88	14.85	14.88	14.94	14.96	14.98	15.02	15.08	15.10
DRIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.13	15.16	15.17	15.21	15.23	15.25	15.27	14.60	15.14	13.90	14.55	14.71	

# TABLE VII

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## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 544- 6 CONFIGURATION L1C1E4B3PWTTIRIRE THETA 3/4 = 42.0 DEG RPM 5501.

HQ = 14.703 PSIA PINE = 13.195 PSIA ISC = 79.45 DEG F RHO = 0.00211 SLUGS/CU FT

M = 0.4094 V = 459.22 FPS Q = 222.451 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	502.88	495.92	474.63	469.53	458.52	457.02	445.75	444.22	394.53	443.60	458.66

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.41	14.49	14.61	14.72	14.81	14.81	14.84	14.85	14.85	14.86	14.75	14.90	14.91
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.91	14.93	14.92	14.92	14.93	14.94	14.93	14.67	14.78	13.39	14.11	14.71	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 545-2 CONFIGURATION LICIE4B3PWITIR1RE THETA 3/4 = 42.0 DEG RPM 5999.

HQ = 14.689 PSIA PINF = 12.401 PSIA TSC = 83.09 DEG F RHO = 0.00200 SLUGS/CU FT

M = 0.5142 V = 573.39 FPS Q = 329.469 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	608.67	596.27	569.99	565.54	554.73	552.78	542.89	542.89	342.43	543.79	542.00

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.00	14.26	14.49	14.68	14.74	14.73	14.73	14.73	14.73	14.73	14.67	14.74	14.75
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.75	14.75	14.75	14.75	14.75	14.75	14.74	14.64	14.56	12.53	13.42	14.69	

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TABLE VII

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 546-4 CONFIGURATION L1C1E483PWT1R1RE THETA 3/4 = 46.0 DEG RPM 6003.

HQ = 14.679 PSIA PINE = 13.159 PSIA ISC = 81.27 DEG F RHQ = 0.00210 SLUGS/CU FT

M = 0.4114 V = 462.15 FPS Q = 224.006 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	532.95	529.61	501.18	499.08	487.79	484.94	472.00	471.26	359.98	467.82	480.66

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.48	14.53	14.61	14.71	14.79	14.84	14.89	14.91	14.93	14.96	14.69	15.01	15.05

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.06	15.09	15.09	15.12	15.14	15.16	15.18	14.65	14.99	13.39	14.23	14.68

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TABLE VII

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 547- 2 CONFIGURATION L1C1E483PWTIRIRE THETA 3/4 = 46.0 DEG RPM 5498.

HQ = 14.675 PSIA PINE = 12.395 PSIA TSC = 86.35 DEG F RHO = 0.00199 SLUGS/CU FT

M = 0.5135 V = 574.38 FPS Q = 328.430 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	613.01	600.40	574.18	569.72	559.54	556.30	546.38	546.38	381.42	546.80	549.41

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.02	14.26	14.50	14.67	14.74	14.74	14.72	14.74	14.74	14.74	14.74	14.65	14.75
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.76	14.76	14.76	14.76	14.75	14.75	14.75	14.75	14.62	14.56	12.53	13.39	14.67

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 548- 5 CONFIGURATION LJCIE483PWIIIRRE THEIA 3/4 = 50.0 DEG RPM 5506.  
H0 = 14.663 PSIA PINE = 13.151 PSIA ISC = 79.32 DEG F RHO = 0.00210 SLUGS/CU FT  
M = 0.4105 V = 460.39 FPS Q = 222.928 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RL	533.22	530.22	504.60	501.12	489.87	486.31	473.32	471.86	395.19	470.56	485.63

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.49	14.57	14.61	14.67	14.76	14.79	14.87	14.90	14.93	14.96	14.66	15.03	15.06

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.08	15.12	15.13	15.15	15.17	15.19	15.20	14.64	15.03	13.40	14.26	14.67

TABLE VII

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 549- 5 CONFIGURATION L1C1E483PWITIRRE THETA 3/4 = 50.0 DEG RPM 5501.  
H0 = 14.646 PSIA PINE = 12.356 PSIA ISC = 82.57 DEG F RHO = 0.00200 SLUGS/CU FT  
M = 0.5153 V = 574.24 FPS Q = 329.634 PSE PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	637.60	628.56	600.25	597.18	586.05	581.67	569.79	568.51	422.44	566.93	575.89

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.16	14.28	14.46	14.63	14.76	14.81	14.84	14.85	14.87	14.89	14.62	14.90	14.92

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.94	14.96	14.96	14.96	14.98	14.98	14.99	14.62	14.51	12.56	13.55	14.66

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 550- 6 CONFIGURATION L1C1E483PW11R1RE THETA 3/4 = 54.0 DEG RPM 5803.

HQ = 14.645 PSIA PINF = 12.359 PSIA TSC = 89.08 DEG F RHO = 0.00198 SLUGS/CU FT

M = 0.5148 V = 577.19 FPS Q = 329.129 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	658.73	652.18	619.73	617.32	606.26	605.65	594.77	591.66	501.00	588.28	603.56

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.27	14.37	14.47	14.61	14.73	14.82	14.90	14.95	15.00	15.04	14.63	15.11	15.12

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.15	15.17	15.17	15.18	15.21	15.23	15.25	14.61	14.52	12.59	13.78	14.64



TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 551-4 CONFIGURATION L1C1E4B3PW11R1RE THETA 3/4 = 42.0 DEG RPM 6004.

HQ = 14.646 PSIA PINF = 13.771 PSIA TSC = 76.07 DEG F RHO = 0.00219 SLUGS/CU FT

M = 0.3078 V = 346.63 FPS Q = 131.349 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	434.91	435.42	411.70	409.24	397.62	395.16	386.63	384.03	370.38	380.09	400.53

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.61	14.67	14.70	14.74	14.80	14.84	14.88	14.90	14.94	14.96	14.82	15.01	15.04

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.07	15.10	15.11	15.14	15.16	15.19	15.20	14.62	15.08	13.92	14.48	14.66

TABLE VII

PHASE I - 8 FI TEST SECTION

THETA	3/4 =	30.0	DEG	RPM	5750.
-------	-------	------	-----	-----	-------

M = 0.3225 V = 362.20 EPS Q = 143.041 PSF PSI = 0. DEG

OFFICE	01	03	04	06	07	09	10	12	13	15	V AVE
81	377.73	372.12	361.14	357.41	352.71	351.76	346.09	342.92	268.47	345.70	348.31
ORRICE	01	03	04	06	07	09	10	12	13	15	V AVE

[illegible][illegible]

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 553- 3 CONFIGURATION 12C1E1B3PW11R1R1RE THETA 3/4 = 34.2 DEG RPM 5501.

HO = 14.624 PSIA PINE = 13.674 PSIA ISC = 71.64 DEG F RHO = 0.00219 SLUGS/CU FT

M = 0.3214 V = 360.16 FPS Q = 142.206 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	389.92	384.72	373.91	370.32	364.02	362.19	355.69	358.49	257.03	353.88	357.02

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.50	14.57	14.65	14.74	14.74	14.79	14.79	14.80	14.81	14.81	14.82	14.83	14.84
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.85	14.85	14.85	14.85	14.85	14.85	14.84	14.67	14.73	14.27	14.70	14.71	

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PI NO 554- 6 CONFIGURATION L2C1E183PW1111R1RE THETA 3/4 = 38.0 DEG RPM 5505.

HQ = 14.625 PSIA PINE = 13.675 PSIA TSC = 72.94 DEG F RHO = 0.00219 SLUGS/CU FT

M = 0.3214 V = 360.59 FPS Q = 142.209 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	409.76	405.85	394.88	388.85	382.73	380.09	370.31	372.11	321.60	370.54	379.67

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.56	14.61	14.67	14.75	14.82	14.84	14.85	14.88	14.89	14.90	14.93	14.92	14.93
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.94	14.94	14.95	14.95	14.95	14.96	14.97	14.97	14.68	14.79	14.29	14.71	14.71

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## TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 555- 6 CONFIGURATION L2C1E1B3PHT1R1RE THETA 3/4 = 38.0 DEG RPM 5648.

HQ = 14.624 PSIA PINE = 12.992 PSIA TSC = 78.15 DEG F RHO = 0.00209 SLUGS/CU FT

M = 0.4282 V = 479.06 FPS Q = 239.637 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	497.28	492.84	474.20	469.72	463.68	462.16	452.35	454.67	381.62	453.44	460.20

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.27	14.44	14.61	14.75	14.80	14.79	14.81	14.81	14.81	14.82	14.81	14.91	14.81

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.81	14.81	14.81	14.82	14.81	14.81	14.80	14.72	14.66	13.98	14.75	14.75

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 556- 6 CONFIGURATION L2C1E183PWITIRIRE THETA 3/4 = 42.0 DEG RPM 5505.  
H0 = 14.616 PSIA PINE = 13.668 PSIA ISC = 70.34 DEG F RHO = 0.00220 SLUGS/CU FT  
M = 0.3214 V = 359.70 FPS Q = 142.120 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
81	426.77	425.45	413.33	407.56	400.87	397.50	384.67	382.04	261.61	378.76	387.86

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.60	14.64	14.67	14.74	14.80	14.85	14.89	14.90	14.93	14.94	14.97	14.99	15.00

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.01	15.03	15.05	15.06	15.08	15.10	15.10	14.66	14.92	14.30	14.70	14.70

# TABLE VII

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## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 557- 3 CONFIGURATION L2C1E1B3PWTTIRRE THETA 3/4 = 42.0 DEG RPM 5509.

HQ = 14.615 PSIA PINE = 12.923 PSIA ISC = 75.42 DEG F RHO = 0.00210 SLUGS/CU FT

M = 0.4271 V = 476.57 FPS Q = 238.338 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	510.56	504.93	488.37	484.73	476.64	474.42	466.27	464.76	320.82	465.30	465.68

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.36	14.47	14.64	14.77	14.84	14.86	14.89	14.89	14.90	14.91	14.89	14.93	14.94
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.95	14.94	14.95	14.95	14.95	14.95	14.95	14.71	14.73	13.99	14.74	14.74	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 558-2 CONFIGURATION L2C1E1B3PW11R1R1RE THETA 3/4 = 42.0 DEG RPM 6005.

H0 = 14.625 PSIA PINE = 12.185 PSIA TSC = 79.71 DEG F RHQ = 0.00199 SLUGS/CU FT

M = 0.5344 V = 592.92 FPS Q = 349.632 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	620.72	609.57	586.29	583.08	576.50	573.25	569.44	567.47	365.40	570.93	562.27

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.98	14.31	14.58	14.79	14.85	14.85	14.86	14.85	14.86	14.86	14.76	14.87	14.85
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.85	14.86	14.84	14.84	14.84	14.83	14.84	14.83	14.76	14.58	13.49	14.80	14.81



**E330590 - 1**

## HSD SHROUDED PROPELLER TEST

**PHASE I - 8 FL TEST SECTION**

**PRESSURE DATA**

RUN -	PT NO	559- 4	CONEIGURATION	I2CIEI83PWITURE		THETA 3/4 =	46.0 DEG	RPM	6002.
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HQ = 14.626 PSIA    PINE = 12.997 PSIA    ISC = 79.97 DEG F    RHO = 0.00208 SLUGS/CU FT

$$M = 0.4278 \quad V = 479.40 \quad FPS \quad Q = 239.251 \quad PSF \quad PSI = 0. \quad DEG$$

### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	550.10	546.19	525.17	521.03	512.95	507.12	497.31	495.87	394.64	494.08	504.37

**EXIT RAKE PRESSURES, PSIA**

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.50	14.36	14.65	14.76	14.87	14.93	14.96	15.00	15.02	15.04	14.76	15.11	15.14

	14	15	16	17	18	19	20	21	22	23	24	25
ORIFICE												
RE	15.16	15.19	15.20	15.22	15.25	15.27	15.29	14.71	14.98	14.02	14.74	14.75

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## TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE 1 - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 560-5 CONFIGURATION L2C1E1B3PWT1R1RE THETA 3/4 = 46.0 DEG RPM 5607.

HQ = 14.624 PSIA PINE = 12.183 PSIA TSC = 85.05 DEG F RHO = 0.00197 SLUGS/CU FT

M = 0.5345 V = 595.92 FPS Q = 349.685 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	642.99	633.08	614.26	606.72	601.65	597.19	584.31	583.01	461.83	583.58	590.86

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.02	14.29	14.57	14.79	14.88	14.90	14.91	14.92	14.92	14.91	14.76	14.93	14.93

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.93	14.94	14.93	14.93	14.94	14.94	14.92	14.75	14.68	13.49	14.79	14.80

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 561- 6 CONFIGURATION L2C1E1B3PWTTIRIRE THETA 3/4 = 50.0 DEG RPM 5500.  
 H0 = 14.625 PSIA PINF = 13.001 PSIA TSC = 81.27 DEG F RHU = 0.00208 SLUGS/CU FT  
 M = 0.4272 V = 479.34 FPS Q = 238.650 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	547.05	542.65	524.33	518.79	509.15	504.89	494.12	491.94	435.09	490.06	505.81

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.50	14.57	14.64	14.75	14.85	14.92	14.96	14.99	15.01	15.03	14.75	15.09	15.12

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.14	15.17	15.18	15.20	15.22	15.24	15.25	14.71	15.05	14.02	14.75	14.75

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 562-3 CONFIGURATION L2C1E183PWTTIRRE THETA 3/4 = 50.0 DEG RPM 5498.

HO = 14.620 PSIA PINF = 12.196 PSIA TSC = 33.37 DEG F RHO = 0.00197 SLUGS/CU FT

M = 0.326 V = 593.27 FPS Q = 347.566 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	651.11	641.92	619.96	614.98	607.56	603.14	596.14	592.94	420.37	592.17	594.03

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.15	14.33	14.55	14.77	14.91	14.95	14.97	14.99	15.00	15.01	14.77	15.04	15.06

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.06	15.07	15.06	15.07	15.08	15.08	15.09	14.75	14.62	13.53	14.79	14.80

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - 27 NO 563- 6 CONFIGURATION L2C1E1B3PWTIRIRE THETA 3/4 = 54.0 DEG RPM 5509.

HO = 14.625 PSIA PINE = 12.187 PSIA TSC = 82.05 DEG F RHO = 0.00198 SLUGS/CU FT

M = 0.5341 V = 593.89 FPS Q = 349.328 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	666.17	653.05	629.20	623.68	616.90	613.80	610.80	606.43	500.38	605.07	612.55

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.27	14.39	14.55	14.73	14.89	14.97	15.01	15.04	15.08	15.13	14.77	15.19	15.20

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.22	15.24	15.24	15.25	15.26	15.27	15.31	14.75	14.67	13.56	14.80	14.81

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 564-6 CONFIGURATION 12C1E183PWT11R1RE THETA 3/4 = 34.0 DEG RPM 5499.

HQ = 14.626 PSIA PINF = 13.653 PSIA TSC = 74.24 DEG F RHO = 0.00218 SLUGS/CU FT

M = 0.3256 V = 365.67 FPS Q = 145.719 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	399.36	395.09	384.65	379.33	374.02	371.30	361.25	360.32	380.51	361.49	376.73

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.46	14.55	14.65	14.73	14.78	14.63	14.62	14.63	14.63	14.63	14.63	14.64	14.63
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.63	14.63	14.84	14.84	14.85	14.85	14.84	14.68	14.72	14.24	14.71	14.71	

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 34.0 DEG RPM 5501.

RUN - PL NO 565-5 CONFIGURATION L2C1E183PWT11R1RE

MO = 14.625 PSIA PINE = 13.671 PSIA TSC = 77.37 DEG F RHO = 0.00217 SLUGS/CU FT

M = 0.3222 V = 363.02 FPS Q = 142.912 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	395.80	390.32	381.40	376.92	367.87	368.72	357.67	357.67	284.41	361.12	364.20

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.48	14.56	14.67	14.75	14.78	14.63	14.63	14.63	14.63	14.62	14.63	14.62	14.63
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.63	14.63	14.85	14.85	14.85	14.84	14.85	14.83	14.69	14.72	14.25	14.71	14.71

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PI NO 566- 6 CONFIGURATION LIC2E1B3PWIIIRIE THETA 3/4 = 30.0 DEG RPM 5497.

H0 = 14.567 PSIA PINE = 13.612 PSIA TSC = 76.72 DEG F RHQ = 0.00216 SLUGS/CU FT

M = 0.3230 V = 363.68 FPS Q = 142.994 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	293.15	315.52	310.16	319.63	320.78	325.93	326.89	326.89	280.98	329.69	314.96

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.37	14.46	14.56	14.64	14.64	14.68	14.65	14.67	14.67	14.67	14.66	14.67	14.67
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.67	14.67	14.67	14.67	14.66	14.66	14.65	14.64	14.60	14.52	14.16	14.65	14.65



# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 567-4 CONFIGURATION LIC2E183PW111R1RE THEIA 3/4 = 34.0 DEG RPM 5999.

HQ = 14.566 PSIA PINE = 13.620 PSIA TSC = 76.72 DEG F RHO = 0.00216 SLUGS/CU FT

M = 0.3215 V = 361.99 FPS Q = 141.729 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	321.00	351.97	338.43	345.32	345.39	348.30	343.43	349.27	271.93	352.78	336.78

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.51	14.55	14.61	14.68	14.74	14.77	14.79	14.80	14.81	14.82	14.84	14.85	14.86

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.87	14.87	14.88	14.89	14.89	14.89	14.89	14.88	14.62	14.74	14.19	14.65	14.65

E330590 - 1

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 568- 6 CONFIGURATION LIC2E1B3PWITIRIRE THETA 3/4 = 38.0 DEG RPM 5499.

HQ = 14.558 PSIA PINF = 13.619 PSIA TSC = 75.55 DEG F RHO = 0.00217 SLUGS/CU FT

M = 0.3203 V = 360.26 FPS Q = 140.658 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	324.26	351.35	336.86	346.63	344.64	350.41	348.43	348.43	309.96	350.25	341.12

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.51	14.54	14.58	14.66	14.72	14.75	14.78	14.80	14.81	14.82	14.84	14.85	14.85
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.86	14.87	14.87	14.88	14.88	14.89	14.89	14.89	14.61	14.77	14.19	14.64	14.64

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 569- 6 CONFIGURATION 11C2E183PWTIRIRE THETA 3/4 = 38.0 DEG RPM 5499.

HQ = 14.568 PSIA PINF = 12.942 PSIA TSC = 79.06 DEG F RHO = 0.00208 SLUGS/CU FT

M = 0.4283 V = 479.52 FPS Q = 238.772 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	383.14	415.38	404.48	418.82	419.57	426.97	422.87	427.79	385.40	433.51	413.79

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.20	14.35	14.51	14.65	14.72	14.73	14.74	14.74	14.74	14.74	14.75	14.87	14.74

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.76	14.75	14.74	14.74	14.73	14.72	14.72	14.66	14.52	13.88	14.70	14.70

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 570-4 CONFIGURATION 11C2E1B3PW111R1RE THEIA 3/4 = 42.0 DEG RPM 6003.

HQ = 14.567 PSIA PINE = 13.608 PSIA TSC = 72.94 DEG F RHO = 0.00218 SLUGS/CU FT

M = 0.3236 V = 363.05 EPS Q = 143.485 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	357.83	390.00	367.77	378.58	372.37	380.42	373.21	373.21	300.67	372.62	366.67

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.60	14.66	14.70	14.73	14.75	14.79	14.85	14.88	14.92	14.96	14.99	15.01	15.04

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.07	15.09	15.11	15.13	15.15	15.17	15.19	14.63	15.02	14.23	14.65	14.65

# TABLE VII

E330550 - 1

## HSD SH-QUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 571- 6 CONFIGURATION LIC2E1R3PWTIRIRE THETA 3/4 = 42.0 DEG RPM 5500.

HQ = 14.571 PSIA PINE = 12.949 PSIA ISC = 74.24 DEG F RHO = 0.00210 SLUGS/CU FT

M = 0.4278 V = 476.82 FPS Q = 238.327 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	402.38	438.46	424.17	436.24	435.44	443.34	436.08	440.04	348.36	448.57	425.31

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.33	14.41	14.53	14.66	14.76	14.81	14.83	14.85	14.85	14.85	14.97	14.88	14.89

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.91	14.91	14.90	14.90	14.90	14.90	14.91	14.90	14.66	14.68	13.90	14.69	14.69

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 572- 2 CONFIGURATION L1C2E1B3PW11R1RE THETA 3/4 = 42.0 DEG RPM 6000.

HQ = 14.576 PSIA PINE = 12.140 PSIA ISC = 78.15 DEG F RHO = 0.00199 SLUGS/CU FT

M = 0.5350 V = 592.64 FPS Q = 349.064 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	476.67	522.12	505.29	523.61	523.61	533.27	532.58	534.64	314.41	545.82	501.20

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.91	14.17	14.43	14.66	14.77	14.77	14.80	14.80	14.78	14.80	14.75	14.79	14.80
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.80	14.79	14.77	14.78	14.78	14.78	14.76	14.76	14.71	14.43	13.24	14.71	14.75

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PI NO 573-4 CONFIGURATION LIC2E1B3PWTIRRE THETA 3/4 = 46.0 DEG RPM 599

HQ = 14.585 PSIA PINF = 12.885 PSIA TSC = 71.04 DEG F RHO = 0.00210 SLUGS/CU FT

M = 0.4385 V = 487.16 FPS Q = 249.164 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RE	437.24	477.81	452.41	468.30	464.55	471.27	470.36	471.10	345.48	475.16	453.37

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.45	14.53	14.53	14.53	14.67	14.77	14.86	14.91	14.95	14.99	15.01	14.92	15.06

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.11	15.13	15.15	15.17	15.18	15.21	15.23	14.68	14.97	13.89	14.71	14.71

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 EI TEST SECTION

## PRESSURE DATA

RUN - PT NO 574-6 CONFIGURATION L1C2E1B3PWT11R1RE THETA 3/4 = 46.0 DEG RPM 5503.

HO = 14.581 PSIA PINE = 12.163 PSIA TSC = 79.32 DEG F RHO = 0.00199 SLUGS/CU FT

M = 0.5326 V = 590.79 FPS Q = 346.642 PSE PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	485.54	530.73	512.72	530.12	531.40	539.58	535.60	538.32	474.19	548.25	522.64

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.03	14.20	14.42	14.66	14.80	14.84	14.87	14.88	14.87	14.88	14.78	14.89	14.89
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.90	14.90	14.88	14.89	14.88	14.88	14.87	14.70	14.45	13.32	14.75	14.76	



E330590 - 1

## TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 575- 5 CONFIGURATION L1C2E1B3PWTIRIRE THETA 3/4 = 50.0 DEG RPM 5496.

HQ = 14.586 PSIA PINE = 12.993 PSIA YSC = 74.11 DEG F RHO = 0.00210 SLUGS/CU FT

M = 0.4233 V = 471.93 FPS Q = 24.149 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	425.54	464.64	440.11	455.55	450.28	456.39	451.90	451.90	386.66	456.38	443.93

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.51	14.60	14.63	14.68	14.74	14.80	14.88	14.93	14.97	15.00	14.96	15.07	15.09

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.12	15.15	15.15	15.19	15.22	15.23	15.25	14.68	15.01	13.97	14.71	14.71

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 576- 6 CONFIGURATION L1C2EJ PW11R1RE THETA 3/4 = 50.0 DEG RPM 5500.

HQ = 14.594 PSIA PINE = 12.171 PSIA TSC = 79.34 DEG F RHQ = 0.00199 SLUGS/CU FT

M = 0.5330 V = 591.47 FPS Q = 347.362 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	504.74	552.71	529.08	546.77	546.10	554.12	550.69	554.02	464.10	561.43	536.38

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.20	14.32	14.44	14.63	14.79	14.90	14.95	14.97	15.00	15.01	14.77	15.03	15.04

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.07	15.07	15.07	15.08	15.09	15.10	15.10	14.72	14.43	13.40	14.77	14.76

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PI NO 577-5 CONFIGURATION LIC2E1B3PWT11R1RE THETA 3/4 = 54.0 DEG RPM 5501.

HO = 14.586 PSIA PINE = 12.156 PSIA TSC = 78.67 DEG F RHO = 0.00199 SLUGS/CU FT

M = 0.5340 V = 591.92 FPS Q = 348.280 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	520.56	572.24	544.42	565.00	561.72	570.88	565.66	566.97	453.46	571.75	549.26

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.28	14.40	14.40	14.48	14.61	14.75	14.87	14.96	15.01	15.04	15.07	14.76	15.14
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.19	15.21	15.21	15.21	15.25	15.27	15.29	15.30	14.72	14.40	13.41	14.76	14.77

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 578- 2 CONFIGURATION LIC2E183PMTIR1READ THETA 3/4 = 30.0 DEG RPM 5500.

HQ = 14.614 PSIA PINE = 13.663 PSIA ISC = 68.91 DEG F RHO = 0.00220 SLUGS/CU FT

M = 0.3217 V = 359.61 FPS Q = 142.396 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	287.48	308.47	303.14	314.81	315.85	318.25	319.92	321.97	176.03	328.41	299.50

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.41	13.40	13.37	13.23	13.36	13.35	13.37	13.31	13.33	13.32	13.36	13.34	13.37
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	13.37	13.39	13.41	13.40	13.29	13.41	13.41	14.53	13.32	13.41	13.31	13.36	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 579- 4 CONFIGURATION LIC2E1B3PW11R1READ THETA 3/4 = 38.0 DEG RPM 6000.

HQ = 14.616 PSIA PINE = 13.668 PSIA ISC = 70.86 DEG F RHO = 0.00219 SLUGS/CU FT

M = 0.3213 V = 359.78 FPS Q = 142.050 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	337.29	366.53	347.92	359.19	354.53	360.12	357.33	357.33	271.28	358.79	347.03

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.43	13.42	13.37	13.22	13.39	13.37	13.37	13.37	13.35	13.36	13.35	13.40	13.37

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	13.40	13.42	13.43	13.42	13.42	13.31	13.42	13.43	14.66	13.36	13.42	13.34

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 580-2 CONFIGURATION L1C2E1B3PW171R1READ THEIA 3/4 = 38.0 DEG RPM 5504.

MO = 14.615 PSIA PINE = 12.993 PSIA TSC = 72.94 DEG F RHO = 0.00211 SLUGS/CU FT

M = 0.4271 V = 475.47 FPS Q = 238.338 PSF PSI = 0. DFG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	379.07	410.85	400.01	413.41	415.88	420.78	419.97	419.97	329.24	428.71	403.79

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13		
RE	12.57	12.57	12.57	12.41	12.41	12.47	12.47	12.50	12.46	12.43	12.47	12.44	12.51	12.46	12.50
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25			
RE	12.52	12.52	12.54	12.54	12.53	12.40	12.55	12.54	14.68	12.48	12.55	12.44	12.49		

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 581- 6 CONFIGURATION 11C2E183PMT11R1READ THETA 3/4 = 46.0 DEG RPM 5501.

HQ = 1.634 PSIA PINE = 13.012 PSIA ISC = 74.24 DEG F RHO = 0.00211 SLUGS/CU FT

M = 0.4268 V = 475.81 FPS Q = 238.429 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	413.04	448.97	431.00	443.62	442.06	449.05	444.40	445.95	383.53	452.27	435.39

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	12.60	12.59	12.55	12.51	12.50	12.57	12.50	12.47	12.50	12.47	12.58	12.49	12.55
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	12.58	12.56	12.58	12.57	12.41	12.59	12.58	14.71	12.52	12.59	12.50	12.53	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 583 5 CONFIGURATION LIC2E1B3PWTIRIRREAD THETA 3/4 = 54.0 DEG RPM 5503.  
 HO = 14.635 PSIA PINF = 12.195 PSIA TSC = 79.97 DEG F RHO = 0.00199 SLUGS/CU FT  
 M = 0.5342 V = 592.78 FPS Q = 349.590 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	518.02	568.21	539.31	560.00	557.92	566.45	563.18	563.84	417.83	570.69	542.55

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	11.32	11.34	11.31	11.30	11.20	11.36	11.28	11.21	11.23	11.19	14.00	11.24	11.30
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	11.35	11.34	11.35	11.33	11.23	11.32	11.35	14.74	12.89	11.49	11.22	11.24	



TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 585- 2 CONFIGURATION L1SCC1SC83PNT11K1RE THETA 3/4 = 30.0 DEG RPM 5964.

H0 = 14.698 PSIA PINF = 13.741 PSIA TSC = 66.44 DEG F RHO = 0.00223 SLUGS/CU FT

M = 0.3220 V = 359.04 FPS Q = 143.423 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	353.95	359.68	335.19	339.06	36.10	339.00	335.13	336.10	162.43	339.22	323.59

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.55	14.68	14.81	14.86	14.88	14.88	14.87	14.88	14.87	14.87	14.87	14.87	14.86

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.84	14.83	14.82	14.79	14.76	14.72	14.69	14.67	14.57	14.36	14.78	14.78

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 586- 6 CONFIGURATION L1SCC1SC1SC83PNTTIRIRE THETA 3/4 = 34.0 DEG RPM 5499.

H0 = 14.703 PSIA PINF = 13.748 PSIA TSC = 69.04 DEG F RHD = 0.00222 SLUGS/CU FT

M = 0.3215 V = 359.42 FPS Q = 143.082 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	364.27	372.36	347.46	352.16	346.51	350.29	342.76	344.67	281.13	343.77	344.54

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.58	14.70	14.82	14.89	14.90	14.90	14.91	14.91	14.91	14.92	14.92	14.91	14.91

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.89	14.87	14.85	14.84	14.82	14.78	14.76	14.74	14.67	14.30	14.79	14.78

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 587- 3 CONFIGURATION L1SC1SC1SC83PNTTIRIRE THETA 3/4 = 38.0 DEG RPM 5508.

M0 = 14.703 PSIA PINF = 13.736 PSIA TSC = 68.26 DEG F RHO = 0.00222 SLUGS/CU FT

M = 0.3236 V = 361.46 FPS Q = 144.837 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	385.17	394.76	365.96	369.54	362.41	365.12	357.84	357.84	259.12	358.08	357.58

## EXIT KAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.65	14.74	14.84	14.92	14.96	14.97	14.97	14.98	14.98	14.99	15.00	15.00	14.99

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.99	14.98	14.96	14.94	14.93	14.90	14.88	14.85	14.74	14.35	14.78	14.78

E330590 - 1

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 38.0 DEG RPM 5891

RUN - PT NO 588- 2 CONFIGURATION L1SCC1SC1SCB3PNTTLR1RE

W0 = 14.712 PSIA PINF = 13.067 PSIA TSC = 69.04 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4288 V = 475.59 FPS Q = 241.652 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
31	467.00	476.39	441.17	447.34	441.17	445.03	438.84	438.06	294.31	441.21	433.05

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.38	14.61	14.81	14.90	14.92	14.89	14.91	14.90	14.91	14.92	14.92	14.92	14.91

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.90	14.88	14.84	14.82	14.79	14.76	14.74	14.70	14.58	13.85	14.52	14.85

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 589-6 CONFIGURATION L1SCC1SC1SC3PN T1R1RE THETA 3/4 = 42.0 DEG RPM 5506.

MO = 14.713 PSIA PINF = 13.755 PSIA TSC = 67.74 DEG F RHO = 0.00222 SLUGS/CU FT

M = 0.3229 V = 359.34 FPS Q = 143.455 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	405.75	414.75	379.34	384.56	374.94	378.46	370.49	368.70	327.70	369.17	377.39

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.72	14.82	14.88	14.94	15.01	15.03	15.03	15.06	15.08	15.08	15.08	15.10	15.10

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.10	15.09	15.08	15.07	15.06	15.04	15.03	15.00	14.87	14.21	14.69	14.80

E330590 - 1

## TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 590-6 CONFIGURATION L1SCC1SC83PNTJIRIRE THETA 3/4 = 42.0 DEG RPM 5503.

H0 = 14.718 PSIA PINF = 13.072 PSIA TSC = 72.81 DEG F RHD = 0.00212 SLUGS/CU FT

M = 0.4287 V = 477.22 FPS Q = 241.678 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	484.28	496.48	453.44	463.18	456.50	459.52	450.43	450.43	365.89	451.58	453.77

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.46	14.65	14.84	14.94	14.94	14.97	14.97	14.98	14.98	15.00	15.01	15.01	15.00

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.99	14.97	14.94	14.92	14.89	14.87	14.84	14.82	14.65	13.89	14.48	14.84

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 592- 6 CONFIGURATION L1SCC1SC1SCB3PNTTIRIRE THETA 3/4 = 42.0 DEG RPM 5498.

NO = 14.731 PSIA PINF = 13.098 PSIA TSC = 73.46 DEG F RHO = 0.00212 SLUGS/CU FT

M = 0.4267 Y = 475.34 FPS Q = 239.886 PSF PSI = 0. DEG

## INLET VELOCITIES. FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RJ	484.20	495.30	459.42	463.91	455.74	459.51	451.10	450.33	383.01	450.12	455.26

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.49	14.67	14.85	14.97	14.97	14.99	15.00	15.00	15.01	15.01	15.03	15.03	15.02

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.02	15.00	14.97	14.97	14.95	14.93	14.91	14.88	14.86	14.73	13.92	14.50	14.85

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT JET SECTION

#### PRESSURE DATA

RUN - PT NO 593- 4 CONFIGURATION 11SCC1SC1SCB3PNI1R1RE THEIA 3/4 = 46.0 DEG RPM 6001.

HQ = 14.732 PSIA PINF = 13.770 PSIA ISC = 66.44 DEG F RHO = 0.00223 SLUGS/CU FT

M = 0.3225 V = 359.62 FPS Q = 144.199 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	442.25	458.89	415.10	419.89	405.46	408.72	396.43	396.43	321.69	390.62	405.55

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.77	14.95	15.03	15.04	15.07	15.13	15.17	15.21	15.25	15.27	15.29	15.29	15.31

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.32	15.33	15.32	15.33	15.33	15.33	15.32	15.31	15.27	15.13	14.33	14.79	14.81



# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 594- 4 CONFIGURATION L1SCC1SC1SC83PNTTIRIRE THETA 3/4 = 46.0 DEG RPM 5999.

H0 = 14.741 PSIA PINF = 13.113 PSIA JSC = 72.16 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4259 V = 473.92 FPS Q = 239.270 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	516.50	533.28	484.49	492.31	478.01	483.06	472.28	471.55	336.12	471.47	473.91

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.62	14.75	14.90	15.02	15.12	15.15	15.18	15.18	15.20	15.21	15.23	15.25	15.26
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.26	15.26	15.24	15.24	15.21	15.19	15.17	15.11	14.92	13.93	14.57	14.87	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 595-2 CONFIGURATION L1SCC1SCB3PN111R1RE THETA 3/4 = 46.0 DEG RPM 6002.

H0 = 14.741 PSIA PJNF = 12.292 PSIA JSC = 70.06 DEG F RHQ = 0.00201 SLUGS/CU FT

M = 0.5331 V = 591.18 FPS Q = 350.983 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
R1	602.96	620.63	571.48	579.20	568.89	574.06	563.02	564.33	334.85	564.24	554.37

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE RE	14.21	14.55	14.85	15.00	15.03	15.02	15.03	15.04	15.04	15.05	15.06	15.05	15.05
ORIFICE RE	14	15	16	17	18	19	20	21	22	23	24	25	
	15.03	15.00	14.99	14.96	14.93	14.85	14.82	14.79	14.59	13.40	14.05	14.85	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 596- 4 CONFIGURATION L1SCC1SCF1SC83PNT1R1RE THETA 3/4 = 50.0 DEG RPM 6000.

MD = 14.741 PSIA PINF = 13.103 PSIA ISC = 78.15 DEG F RHO = 0.00211 SLUGS/CU FT

M = 0.4273 Y = 478.02 FPS Q = 240.595 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	551.21	572.53	515.87	524.10	509.53	513.01	499.79	497.66	375.01	493.82	505.26

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.63	14.83	14.97	15.04	15.13	15.21	15.27	15.31	15.35	15.38	15.39	15.42	15.44

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.46	15.47	15.47	15.47	15.47	15.47	15.47	15.45	15.37	15.15	13.91	14.59	14.87

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - 01 NO 597- 4 CONFIGURATION L1SCC1SC1SCB3PMTIIRIRE THEIA 3/4 = 50.0 DEG RPM 6001.

H0 = 14.741 PSIA PINF = 12.290 PSIA ISC = 85.70 DEG F RHO = 0.00198 SLUGS/CU FT

M = 0.5333 V = 595.04 FPS Q = 351.229 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RL	641.41	663.27	603.84	613.81	600.18	604.58	590.79	591.42	421.12	589.51	591.99

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.30	14.55	14.82	15.05	15.18	15.22	15.24	15.26	15.28	15.30	15.32	15.33	15.33

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.32	15.32	15.26	15.23	15.17	15.14	15.10	15.06	14.88	13.41	14.06	14.85

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 598- 6 CONFIGURATION L1SCC1SC1SC83PNT11R1RE THEIA 3/4 = 54.0 DEG RPM 5497.

HO = 14.732 PSIA PINF = 12.284 PSIA JSC = 83.35 DEG F RHO = 0.00199 SLUGS/CU FT

M = 0.5332 V = 593.65 FPS Q = 350.917 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	643.49	666.65	606.28	615.57	601.80	606.79	592.24	590.98	492.43	587.90	600.41

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.24	14.49	14.77	15.00	15.13	15.17	15.21	15.23	15.25	15.27	15.29	15.31	15.31

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.32	15.31	15.29	15.27	15.24	15.19	15.14	15.12	14.88	13.39	14.08	14.84

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 601- 4 CONFIGURATION 11SCC1SC1SCB3PNTTIRIRE THETA 3/4 = 46.0 DEG RPM 5998.

NO = 14.742 PSIA PINF = 13.791 PSIA TSC = 79.97 DEG F RHO = 0.00218 SLUGS/CU FT

M = 0.3203 V = 361.78 FPS Q = 142.466 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	453.89	468.93	424.89	429.71	415.87	419.14	404.30	402.61	317.76	397.59	413.47

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.81	14.98	15.06	15.07	15.10	15.16	15.20	15.24	15.28	15.30	15.31	15.33	15.34

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.36	15.37	15.37	15.38	15.37	15.37	15.36	15.31	15.19	14.35	14.81	14.83

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FI TEST SECTION

## PRESSURE DATA

RUN - PT NO 602- 4 CONFIGURATION 11SCC1SC1SC83PNTTIRIRE THETA 3/4 = 46.0 DEG RPM 6001.

HQ = 14.742 PSIA PINF = 13.114 PSIA JSC = 82.44 DEG F RHO = 0.00209 SLUGS/ACU FI

M = 0.4259 V = 478.45 FPS Q = 239.277 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	528.00	544.50	494.85	502.72	489.07	492.69	481.11	479.64	344.30	478.16	483.50

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.63	14.77	14.91	15.02	15.12	15.15	15.19	15.21	15.21	15.24	15.25	15.26	15.28

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.28	15.27	15.26	15.26	15.26	15.23	15.22	15.20	15.14	14.94	13.94	14.53	14.86

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 603- 5 CONFIGURATION L1SCC1SC83PNTTIRIRE THETA 3/4 = 46.0 DEG RPM 5997.

HQ = 14.741 PSIA PINF = 13.106 PSIA TSC = 83.09 DEG F RHO = 0.00209 SLUGS/CU FT

M = 0.4269 V = 479.85 FPS Q = 240.264 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	530.01	545.25	496.19	501.92	488.31	491.22	482.36	480.89	395.13	479.70	489.10

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.62	14.77	14.90	15.01	15.12	15.15	15.18	15.20	15.22	15.23	15.24	15.27	15.28
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.28	15.29	15.26	15.26	15.23	15.23	15.20	15.14	14.95	13.94	14.52	14.87	



# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FJ TEST SECTION

#### PRESSURE DATA

RUN - PT NO 604-3 CONFIGURATION 11SCC1SC1SC3PNTIIRIREAD THETA 3/4 = 46.0 DEG RPM 6001.

HQ = 14.728 PSIA PINF = 13.088 PSIA TSC = 78.67 DEG F RHO = 0.00210 SLUGS/CU FJ

M = 0.4278 V = 478.77 FPS Q = 240.864 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	524.46	541.22	495.50	501.22	489.09	491.26	480.30	479.57	236.85	477.44	471.69

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.60	14.75	14.89	15.02	15.11	15.15	15.17	15.20	15.21	15.22	15.24	15.26	15.26
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.26	15.26	15.24	15.23	15.22	15.20	15.18	15.11	14.91	14.03	14.46	14.83	

TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PI NO 605- 4 CONFIGURATION 11SCG1SC1SCB3PNT11R1READ THETA 3/4 = 46.0 DEG RPM 6000.

H0 = 14.724 PSIA PINF = 13.082 PSIA ISC = 85.05 DEG F RH0 = 0.00208 SLUGS/ACU FT

M = 0.4281 V = 482.01 FPS Q = 241.176 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	530.48	546.33	497.81	505.01	490.53	494.91	483.81	482.33	314.64	479.90	482.58

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.59	14.74	14.88	15.01	15.11	15.15	15.17	15.19	15.20	15.22	15.23	15.24	15.26

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.26	15.26	15.24	15.23	15.21	15.19	15.18	15.12	14.91	14.02	14.45	14.84

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 606- 3 CONFIGURATION L1SCC1SC1SCB3PNTIIRIREAD THEIA 3/4 = 42.0 DEG RPM 6001.

HQ = 14.732 PSIA PINF = 12.282 PSIA TSC = 87.52 DEG F RHO = 0.00198 SLUGS/CU FT

M = 0.5334 V = 596.11 FPS Q = 351.097 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	616.39	634.34	582.36	588.84	578.45	583.01	573.10	572.44	365.37	571.83	566.61

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.23	14.56	14.85	15.04	15.07	15.08	15.08	15.08	15.10	15.11	15.11	15.10	15.09

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.08	15.06	15.05	15.00	14.97	14.92	14.87	14.85	14.65	13.31	13.87	14.71

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FI TEST SECTION

## PRESSURE DATA

RUN - PT NO 607-2 CONFIGURATION L1SCC1SC83PNT11R1READ THEIA 3/4 = 30.0 DEG RPM 6025.

HO = 14.723 PSIA PINF = 13.775 PSIA TSC = 82.44 DEG F RHO = 0.00216 SLUGS/CU FT

M = 0.3199 V = 362.15 FPS Q = 141.931 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RA	359.01	364.22	338.24	344.19	340.18	342.16	339.18	339.18	315.84	341.38	342.36

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.56	14.71	14.83	14.88	14.90	14.89	14.90	14.90	14.89	14.90	14.89	14.88	14.88

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.86	14.85	14.83	14.81	14.77	14.73	14.70	14.68	14.57	14.29	14.54	14.79

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FJ TEST SECTION

## PRESSURE DATA

RUN - PT NO 608- 4 CONFIGURATION 11SCC1SC1SC83PN111R1READ THEIA 3/4 = 38.0 DEG RPM 6002.

HQ = 14.724 PSIA PINE = 13.773 PSIA TSC = 76.72 DEG F RHO = 0.00219 SLUGS/CU FT

M = 0.3205 V = 360.88 FPS Q = 142.425 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	405.01	414.29	380.87	386.18	378.12	380.80	373.68	371.86	281.01	371.69	374.35

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.74	14.74	14.93	14.90	14.98	15.04	15.07	15.09	15.10	15.11	15.12	15.13	15.13

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.14	15.14	15.11	15.09	15.09	15.07	15.06	15.02	14.96	14.83	14.33	14.62	14.81

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 602- 3 CONFIGURATION L1SCC1SC1SCB3PNTT1R1READ THETA 3/4 = 38.0 DEG RPM 5999.  
MO = 14.724 PSIA PINF = 13.087 PSIA ISC = 79.97 DEG F RHO = 0.00210 SLUGS/CU FT  
M = 0.4273 V = 478.90 FPS Q = 240.381 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	477.23	488.22	452.97	457.61	451.42	454.52	444.53	445.32	317.76	446.97	443.65

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.41	14.63	14.81	14.92	14.94	14.94	14.94	14.95	14.96	14.97	14.98	14.97	14.97
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.95	14.93	14.91	14.88	14.85	14.83	14.79	14.76	14.62	13.95	14.36	14.81	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT JESI SECTION

## PRESSURE DATA

RUN - PI NO 610- 4 CONFIGURATION L1SCC1SCB3PNTIIR1READ THEIA 3/4 = 54.0 DEG RPM 5998.

HO = 14.718 PSIA PINF = 12.277 PSIA TSC = 88.43 DEG F RHO = 0.00197 SLUGS/CU FT

M = 0.5326 V = 595.74 FPS Q = 349.878 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	657.36	679.76	618.69	628.66	614.41	618.81	603.64	604.92	403.56	599.04	602.89

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.28	14.50	14.78	15.01	15.17	15.25	15.28	15.32	15.34	15.37	15.41	15.44	15.44

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.43	15.43	15.41	15.38	15.34	15.28	15.24	15.19	14.90	13.44	14.03	14.77

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 612- ? CONFIGURATION LIC1E1B3PRT2R1RE THETA 3/4 = 30.0 DEG RPM 5503.

HO = 14.712 PSIA PINF = 13.756 PSIA ISC = 65.14 DEG F RHO = 0.00223 SLUGS/CU FT

M = 0.3217 V = 358.27 FPS Q = 143.313 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	377.13	371.17	345.55	346.80	339.10	340.07	336.20	335.23	141.32	336.40	326.93

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.52	14.64	14.74	14.82	14.84	14.84	14.83	14.85	14.85	14.84	14.84	14.84	14.83
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.83	14.83	14.80	14.80	14.80	14.78	14.77	14.77	14.75	14.61	14.36	14.79	14.79



TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FI TEST SECTION

PRESSURE DATA

RUN - PT NO 613-7 CONFIGURATION L1C1E1B3PRI2R1RE THETA 3/4 = 34.0 DEG RPM 5491.

MO = 14.712 PSIA PINF = 13.752 PSIA TSC = 67.74 DEG F RHO = 0.00222 SLUGS/CCU FT

M = 0.3223 V = 359.80 FPS Q = 143.805 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	396.99	387.98	370.53	368.74	361.43	361.43	353.18	353.18	301.48	353.24	360.82

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.60	14.68	14.78	14.86	14.89	14.89	14.90	14.90	14.92	14.92	14.92	14.92	14.92

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.92	14.92	14.92	14.92	14.91	14.89	14.89	14.88	14.87	14.66	14.36	14.79

TABLE VII'

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THEIA 3/4 = 38.0 DEG RPM 5505.

RUN - PT NO 614- 6 CONFIGURATION LICIE1B3PT12R1RE

MO = 14.665 PSIA PINF = 13.726 PSIA TSC = 66.31 DEG F RHO = 0.00222 SLUGS/CU FT

M = 0.3192 V = 355.89 FPS Q = 140.752 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	413.22	404.33	384.19	382.46	374.62	373.74	364.83	363.02	295.34	359.70	371.54

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.65	14.71	14.77	14.83	14.89	14.93	14.93	14.95	14.96	14.97	14.98	14.98	14.99

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.99	15.00	14.99	14.99	14.99	14.99	14.99	14.97	14.95	14.73	14.35	14.75

TABLE VII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 637- 4 CONFIGURATION LICIE1B3PNTTIRRE THETA 3/4 = 50.0 DEG RPM 6001.

H0 = 14.625 PSIA PINE = 12.996 PSIA TSC = 81.27 DEG F RHO = 0.00208 SLUGS/CU FT

M = 0.4279 V = 480.14 FPS Q = 239.379 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RL	569.92	563.98	529.85	529.85	517.47	517.47	503.32	501.89	412.95	494.77	514.15

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.58	14.74	14.87	14.87	14.89	14.95	15.03	15.10	15.16	15.20	15.23	15.25	15.27

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.29	15.30	15.30	15.31	15.30	15.30	12.67	15.18	14.80	14.04	14.74	14.74

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 638-6 CONFIGURATION 11C1E1B3PNIIRIRE THETA 3/4 = 50.0 DEG RPM 5501.

H0 = 14.625 PSIA PINF = 12.191 PSIA TSC = 82.96 DEG F RHO = 0.00198 SLUGS/CU FT

M = 0.5337 V = 593.91 FPS Q = 348.836 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	666.76	650.96	619.37	616.25	605.18	605.18	77.27	584.04	475.97	578.17	547.91

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.28	14.44	14.63	14.81	14.94	14.98	15.00	15.01	15.02	15.02	15.04	15.05	15.05

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.04	15.03	15.00	14.97	14.96	14.95	11.53	14.88	14.42	13.41	14.78	14.79

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 639-6 CONFIGURATION LIC1E183PVT1R1RE THETA 3/4 = 54.0 DEG RPM 5501.

HQ = 14.635 PSIA PINF = 12.205 PSIA TSC = 82.05 DEG F RHO = 0.00198 SLUGS/CU FT

M = 0.5330 V = 592.71 FPS Q = 348.359 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	679.82	664.24	628.34	627.11	616.69	617.32	85.36	598.31	483.57	589.61	559.04

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.24	14.43	14.60	14.75	14.90	14.99	15.06	15.10	15.13	15.15	15.16	15.19	15.20

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.21	15.21	15.19	15.18	15.16	15.15	11.59	15.05	14.54	13.49	14.80	14.81

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PI NO 641-2 CONFIGURATION LICIEIB3PT3R1RE THEFA 3/4 = 30.0 DEG RPM 5500.

HO = 14.636 PSIA PINE = 13.761 PSIA TSC = 62.53 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3079 V = 342.32 FPS Q = 131.328 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	357.73	347.11	329.90	329.90	326.91	324.94	55.49	318.96	184.24	318.33	289.35

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.41	14.52	14.61	14.68	14.71	14.70	14.70	14.70	14.70	14.70	14.70	14.70	14.70
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.70	14.70	14.69	14.68	14.67	14.65	13.53	14.63	14.50	14.24	14.64	14.64	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 642-6 CONFIGURATION LIC1F1B3PRT3R1RE THETA 3/4 = 34.0 DEG RPM 5504.  
HQ = 14.646 PSIA PINF = 13.769 PSIA TSC = 59.80 DEG F RHG = 0.00225 SLUGS/CU FT  
M = 0.3081 V = 341.62 FPS Q = 131.561 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	375.71	368.57	349.78	347.94	343.29	341.42	42.87	331.96	300.17	329.43	313.11

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.51	14.58	14.66	14.73	14.77	14.77	14.79	14.79	14.80	14.80	14.79	14.81	14.81
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.80	14.80	14.79	14.79	14.79	14.79	14.77	13.58	14.72	14.52	14.26	14.65	14.64

TABLE VII

E330590 - I

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 643- 4 CONFIGURATION LIC1E1B3PRT3R1RE THETA 3/4 = 38.0 DEG RPM 5997.

HQ = 14.645 PSIA PINE = 13.765 PSIA TSC = 59.80 DEG F RHO = 0.00225 SLUGS/CU FT

M = 0.3087 V = 342.30 FPS Q = 132.052 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	407.07	406.16	383.05	381.35	375.29	374.43	49.46	361.26	269.10	356.41	336.36

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.57	14.65	14.72	14.76	14.82	14.87	14.89	14.91	14.93	14.94	14.95	14.96	14.98

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.98	14.99	14.99	15.00	15.00	15.01	13.67	14.95	14.71	14.30	14.64	14.64



TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 644-2 CONFIGURATION LIC1E1R3PRI3R1RE THETA 3/4 = 38.0 DEG RPM 5504.

HQ = 14.645 PSIA PINF = 13.134 PSIA TSC = 63.05 DEG F RHO = 0.00217 SLUGS/CU FT

M = 0.4106 V = 453.45 FPS Q = 222.710 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	476.03	465.81	444.01	437.97	433.39	432.63	55.48	417.76	329.18	417.78	391.00

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.28	14.42	14.57	14.68	14.73	14.73	14.73	14.75	14.74	14.76	14.74	14.75	14.76
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.76	14.75	14.74	14.73	14.72	14.72	12.92	14.69	14.41	13.98	14.64	14.64	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 645- 4. CONFIGURATION LIC1E123PRT3R1RE

THETA 3/4 = 42.0 DEG RPM 6000.

HO = 14.655 PSIA PINF = 13.791 PSIA TSC = 59.30 DEG F RHO = 0.00226 SLUGS/CU FT

M = 0.3058 V = 332.13 FPS Q = 129.318 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	420.96	419.96	395.13	395.95	386.76	385.92	55.25	371.48	210.18	365.61	340.72

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.62	14.70	14.78	14.83	14.86	14.90	14.94	14.98	15.01	15.04	15.06	15.07	15.10
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.11	15.12	15.14	15.15	15.16	15.17	13.79	15.13	14.87	14.34	14.66	14.66	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 646-7 CONFIGURATION L1C1E1B3PRT3R1RE THETA 3/4 = 42.0 DEG RPM 5504.

HQ = 14.654 PSIA PINF = 13.153 PSIA TSC = 68.26 DEG F RHO = 0.00215 SLUGS/CU FT

M = 0.4091 V = 454.11 FPS Q = 221.420 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

CRIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	438.72	478.42	453.09	450.12	442.60	442.60	61.00	430.26	380.29	429.28	405.64

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.41	14.41	14.42	14.60	14.70	14.78	14.81	14.83	14.83	14.84	14.86	14.88	14.88
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.88	14.89	14.88	14.87	14.87	14.86	12.80	14.78	14.48	14.02	14.65	14.65	

TABLE VII

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PI NO 647-2 CONFIGURATION LIC1E1B3PRT3R1RE THETA 3/4 = 42.0 DEG RPM 5746.

H0 = 14.659 PSIA PINE = 12.378 PSIA TSC = 75.55 DEG F RHO = 0.00203 SLUGS/CU FT

M = 0.5149 V = 569.21 FPS Q = 328.620 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	541.84	577.14	544.85	543.54	536.23	536.23	79.47	522.24	369.06	522.66	482.33

EXIT RAKE PRESSURES, PSIA

ORIFICE	C1	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.97	14.27	14.50	14.66	14.71	14.71	14.71	14.71	14.72	14.70	14.70	14.71	14.70
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.71	14.70	14.69	14.68	14.66	14.65	12.54	14.63	14.33	13.50	14.66	14.67	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 648-4 CONFIGURATION LIC1E1R3PRT3R1RE THETA 3/4 = 34.0 DEG RPM 6002.

H0 = 14.664 PSIA PINF = 13.785 PSIA TSC = 67.74 DEG F RH0 = 0.00222 SLUGS/CU FT

M = 0.3083 V = 344.53 FPS Q = 131.953 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	394.55	390.81	367.56	366.66	359.52	357.70	43.17	347.59	310.64	343.23	328.14

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.58	14.65	14.72	14.79	14.84	14.86	14.88	14.89	14.91	14.90	14.91	14.91	14.93

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.92	14.92	14.92	14.91	14.91	14.91	14.90	13.90	14.81	14.60	14.29	14.66	14.66

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO. 649- 4 CONFIGURATION LIC1E1R3PRT3R1RE THETA 3/4 = 46.0 DEG RPM 6003.  
 HQ = 14.664 PSIA PINE = 13.146 PSIA TSC = 68.91 DEG F RHO = 0.00214 SLUGS/CU FT  
 M = 0.4114 V = 456.37 FPS Q = 223.803 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	525.24	518.23	488.16	487.46	477.66	475.51	70.54	461.03	314.27	456.42	427.45

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.50	14.61	14.69	14.74	14.81	14.87	14.93	14.98	15.00	15.02	15.04	15.07	15.08

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.10	15.12	15.13	15.14	15.16	15.16	13.53	15.11	14.75	14.05	14.66	14.67

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO. 650-6 CONFIGURATION LICIE1B3PRT3R1RE THETA 3/4 = 46.0 DEG RPM 5498.  
 HO = 14.665 PSIA PINF = 12.379 PSIA TSC = 75.55 DEG F RHO = 0.00203 SLUGS/CU FT  
 M = 0.5145 V = 569.74 FPS Q = 329.288 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	597.79	582.13	552.93	548.90	542.04	542.04	74.36	527.90	421.30	524.66	491.51

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.10	14.32	14.51	14.68	14.76	14.78	14.78	14.78	14.79	14.80	14.79	14.80	14.81
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.81	14.80	14.79	14.79	14.79	14.78	14.77	12.76	14.73	14.34	13.55	14.67	14.66

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 651- 5 CONFIGURATION LIC1E1B3PT13R1NE THETA 3/4 = 50.0 DEG RPM 5502.

H0 = 14.669 PSIA PINF = 13.157 PSIA TSC = 76.07 DEG F RHO = 0.00212 SLUGS/CU FT

M = 0.4104 V = 458.92 FPS Q = 222.958 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	524.89	518.79	489.29	487.88	430.57	477.70	70.99	460.97	390.28	455.48	435.68

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.51	14.01	14.68	14.72	14.79	14.84	14.91	14.95	14.98	15.01	15.04	15.05	15.07

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.09	15.10	15.11	15.13	15.14	15.14	13.40	15.09	14.76	14.07	14.67	14.67



## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 652-7 CONFIGURATION LIC1E1R3PRT3R1RE THETA 3/4 = 50.0 DEG RPM 5500.

H0 = 14.659 PSIA PINF = 12.366 PSIA TSC = 88.95 DEG F RHO = 0.00198 SLUGS/CU FT

M = 0.5155 V = 577.84 FPS Q = 330.175 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	634.46	618.31	584.10	580.94	572.46	573.10	71.83	557.08	472.77	552.67	521.77

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.18	14.31	14.49	14.65	14.77	14.83	14.87	14.87	14.89	14.92	14.92	14.93	14.95

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.96	14.96	14.95	14.94	14.94	14.94	11.99	14.83	14.40	13.56	14.66	14.66

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 653- 5 CONFIGURATION L1C1E1B3PRT3R1-E THETA 3/4 = 54.0 DEG RPM 5919.

H0 = 14.665 PSIA PINF = 12.379 PSIA TSC = 79.97 DEG F RHO = 0.00201 SLUGS/CU FT

M = 0.5145 V = 572.08 FPS Q = 329.288 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	652.85	641.16	604.22	604.22	595.60	593.77	75.49	574.79	449.22	568.64	536.00

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.22	14.34	14.48	14.62	14.75	14.85	14.96	15.04	15.09	15.13	15.18	15.20	15.22

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.24	15.25	15.24	15.26	15.26	15.26	12.06	15.10	14.54	13.64	14.67	14.68

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 615-6 CONFIGURATION LIC1E183PRT2R1RE THETA 3/4 = 38.0 DEG RPM 5603.

HQ = 14.659 PSJA PINF = 13.037 PSIA TSC = 74.76 DEG F RHO = 0.00211 SLUGS/CU FT

M = 0.4264 V = 475.59 FPS Q = 238.416 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	503.18	490.12	466.05	463.81	455.50	455.50	444.04	442.49	364.20	444.06	452.89

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.34	14.52	14.70	14.81	14.81	14.84	14.85	14.85	14.86	14.85	14.86	14.86	14.86
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.85	14.84	14.83	14.82	14.81	14.80	14.79	14.78	14.78	14.53	14.05	14.78	14.78

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 616-6 CONFIGURATION 11C1E1B3PRT2R1RE THETA 3/4 = 38.0 DEG RPM 5607.

HQ = 14.664 PSIA PINF = 13.029 PSIA TSC = 76.72 DEG F RHO = 0.00210 SLUGS/ACU FT

M = 0.4280 V = 478.21 FPS Q = 240.094 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	504.01	491.35	467.21	464.96	455.87	456.63	445.85	445.07	357.78	446.88	453.56

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.33	14.51	14.69	14.80	14.84	14.85	14.85	14.86	14.85	14.85	14.86	14.86	14.85
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.85	14.84	14.83	14.82	14.81	14.80	14.79	14.78	14.78	14.52	14.04	14.78	14.78

## TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 617-4 CONFIGURATION LIC1E183PRT2R1RE THETA 3/4 = 42.0 DEG RPM 6003.

HO = 14.654 PSIA PINF = 13.705 PSIA ISC = 71.64 DEG F RHO = 0.00220 SLUGS/CU FT

M = 0.3211 V = 359.85 FPS Q = 142.274 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	450.79	447.22	421.29	421.29	409.13	409.13	397.41	395.72	319.84	389.90	406.17

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.68	14.78	14.85	14.88	14.91	14.91	14.94	15.01	15.05	15.08	15.10	15.12	15.13
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.17	15.18	15.19	15.21	15.21	15.23	15.24	15.23	15.18	14.94	14.35	14.74	14.74

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

### PRESSURE DATA

RUN - PT NO 618-3 CONFIGURATION L1C1E1B3PRT2R1RE THETA 3/4 = 42.0 DEG RPM 5493.

H0 = 14.645 PSIA P1MF = 13.017 PSIA TSC = 74.24 DEG F RHD = 0.00211 SLUGS/CU FT

M = 0.4274 V = 476.40 FPS Q = 239.141 PSF PSI = 0. DEG

### INLET VELOCITIES, FPS

ORIFICE	01	03	04	05	06	07	09	10	12	13	15	V AVE
R1	520.46	509.64	481.39	479.20	469.53	470.27	458.43	456.91	336.02	458.47	464.03	

### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.45	14.56	14.70	14.81	14.89	14.90	14.91	14.92	14.92	14.93	14.94	14.95	14.95

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.94	14.95	14.94	14.94	14.94	14.94	14.92	14.91	14.89	14.57	14.04	14.76	14.77

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 613-2 CONFIGURATION LICIE103PRT2RLRE THETA 3/4 = 42.0 DEG RPM 5968.

H0 = 14.650 PSIA PINE = 12.212 PSIA TSC = 80.75 DEG F RHO = 0.00199 SLUGS/CU FT

M = 0.5335 V = 592.56 FPS Q = 349.275 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	638.43	618.82	584.40	581.85	573.38	572.74	559.14	558.48	381.70	559.86	562.88

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.03	14.36	14.62	14.81	14.87	14.87	14.87	14.88	14.87	14.86	14.87	14.87	14.85

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.85	14.84	14.83	14.82	14.79	14.78	14.77	14.75	14.39	13.36	14.79	14.82

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 620- 6 CONFIGURATION LIC1E1B3PRT2R1RE THETA 3/4 = 46.0 DEG RPM 5503.

H0 = 14.640 PSIA PINF = 13.015 PSIA TSC = 71.51 DEG F RHO = 0.00212 SLUGS/CU FT

M = 0.4271 V = 474.89 FPS Q = 238.786 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	539.60	529.57	498.13	497.42	486.79	486.07	474.96	473.49	375.89	471.48	483.34

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.48	14.58	14.68	14.80	14.88	14.94	14.97	14.99	15.01	15.02	15.04	15.05	15.06

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.07	15.06	15.07	15.08	15.08	15.08	15.08	15.08	14.70	14.04	14.76	14.76



# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 621-5 CONFIGURATION 11C1E183PRT2R1KE THETA 3/4 = 46.0 DEG RPM 5507.

HQ = 14.653 PSIA PINF = 12.225 PSIA TSC = 74.24 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5324 V = 587.73 FPS Q = 348.071 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	650.40	631.43	599.50	593.87	586.19	585.55	565.86	566.51	440.70	565.83	578.58

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.12	14.38	14.63	14.83	14.93	14.93	14.93	14.94	14.95	14.92	14.94	14.96	14.94

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.93	14.93	14.93	14.93	14.91	14.90	14.88	14.87	14.47	13.46	14.81	14.83

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PI NO 622- 7 CONFIGURATION LIC1E1B3PRT2RIKE THETA 3/4 = 50.0 DEG RPM 5504.

H0 = 14.646 PSIA PINF = 13.018 PSIA TSC = 74.24 DEG F RHO = 0.00211 SLUGS/CU FT

M = 0.4273 V = 476.32 FPS Q = 239.079 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	555.48	546.71	515.11	513.04	502.55	502.55	488.28	486.12	404.51	483.58	499.79

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.53	14.62	14.72	14.79	14.87	14.94	15.01	15.04	15.08	15.10	15.12	15.13	15.16

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.17	15.19	15.20	15.21	15.23	15.24	15.23	15.18	14.85	14.05	14.77	14.77

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 623- 3 CONFIGURATION L1C1E1R3PRT2R1RE THETA 3/4 = 50.0 DEG RPM 5491.

HQ = 14.646 PSIA PINF = 12.214 PSIA TSC = 74.76 DEG F RHO = 0.00201 SLUGS/CU FT

M = 0.2330 V = 588.67 FPS Q = 348.567 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	664.86	648.60	611.38	610.15	598.47	597.84	583.96	583.33	394.03	579.17	587.18

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.23	14.40	14.40	14.61	14.80	14.93	15.00	15.02	15.04	15.05	15.06	15.08	15.09

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.09	15.09	15.09	15.09	15.09	15.09	15.08	15.07	15.02	14.55	13.51	14.81	14.81

# TABLE VII

F330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO. 624-6 CONFIGURATION LICIE1B3PRT2R1RE THETA 3/4 = 54.0 DEG RPM 5501.

H0 = 14.644 PSIA PINF = 12.208 PSIA TSC = 71.64 DEG F RHD = 0.00202 SLUGS/CU FT

M = 0.5336 V = 587.57 FPS Q = 349.171 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	678.44	660.83	623.84	621.43	611.81	612.42	596.37	595.75	518.99	588.95	610.88

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.27	14.39	14.53	14.73	14.90	15.01	15.07	15.10	15.12	15.15	15.18	15.20	15.22
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.24	15.24	15.25	15.27	15.28	15.29	12.18	15.23	14.65	13.57	14.81	14.81	

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 625-6 CONFIGURATION LIC1E1B3PRT2R1-E THETA 3/4 = 34.0 DEG RPM 5492.

H0 = 14.654 PSIA PINE = 13.698 PSIA TSC = 70.21 DEG F RHO = 0.00220 SLUGS/CU FT

M = 0.3222 V = 360.58 FPS Q = 143.186 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	397.86	390.09	373.56	368.16	360.92	362.76	351.54	351.54	385.06	350.95	369.24

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.55	14.62	14.73	14.80	14.84	14.85	14.85	14.86	14.86	14.86	14.86	14.86	14.87

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.86	14.86	14.86	14.85	14.84	14.83	13.54	14.80	14.60	14.30	14.74	14.74

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 627-2 CONFIGURATION LIC1E1B3PNTT1R1RE THETA 3/4 = 30.0 DEG RPM 5883.

H0 = 14.646 PSIA P1NF = 13.691 PSIA TSC = 63.83 DEG F RHD = 0.00223 SLUGS/CU FT

M = 0.3221 V = 358.21 FPS Q = 142.956 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	375.66	365.01	349.31	347.42	340.79	340.79	335.88	335.88	164.12	332.92	328.78

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.50	14.61	14.72	14.78	14.78	14.79	14.79	14.78	14.78	14.79	14.78	14.78	14.78
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.78	14.76	14.76	14.74	14.71	14.68	13.55	14.63	14.48	14.27	14.73	14.72	

# TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 623-3 CONFIGURATION LIC1E1B3PNTTIRRE THETA 3/4 = 34.0 DEG RPM 5499.  
 HQ = 14.653 PSIA PINE = 13.698 PSIA TSC = 66.44 DEG F RHQ = 0.00222 SLUGS/CU FT  
 M = 0.3220 V = 359.03 FPS Q = 142.972 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	387.79	378.73	360.03	358.19	351.61	351.61	344.98	344.03	237.05	342.92	345.70

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.57	14.65	14.74	14.82	14.82	14.84	14.83	14.83	14.83	14.83	14.85	14.84	14.83

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.84	14.83	14.82	14.81	14.81	14.79	14.77	13.58	14.72	14.55	14.28	14.74	14.73

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 629-7 CONFIGURATION LICIE183PNTTIRRE THETA 3/4 = 38.0 DEG RPM 5499.

HO = 14.055 PSIA FIFE = 13.699 PSIA TSC = 69.56 DEG F RHO = 0.00221 SLUGS/CU FT

M = 0.3222 V = 360.35 FPS Q = 143.188 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	407.52	401.67	378.61	378.61	369.70	370.60	361.52	359.67	320.75	360.23	370.89

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.65	14.71	14.78	14.84	14.90	14.92	14.93	14.93	14.93	14.95	14.95	14.95	14.95
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.95	14.94	14.95	14.93	14.91	14.91	13.64	14.83	14.61	14.31	14.74	14.74	



TABLE VII

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 630- 2 CONFIGURATION LICIE1B3PNTIIRRE THETA 3/4 = 38.0 DEG RPM 5597.

HO = 14.655 PSIA PINF = 13.025 PSIA TSC = 70.34 DEG F RHO = 0.00212 SLUGS/CU FT

M = 0.4276 V = 474.89 FPS Q = 239.524 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	492.41	480.02	455.52	454.76	445.54	446.31	439.14	437.56	301.73	436.21	438.92

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.34	14.53	14.69	14.80	14.83	14.82	14.82	14.82	14.82	14.83	14.84	14.83	14.82

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.83	14.81	14.79	14.77	14.74	14.73	12.61	14.68	14.44	14.00	14.78	14.78

# TABLE VII

F330590 -- 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 631-6 CONFIGURATION L1C1E1B3PNTTIRRE THETA 3/4 = 42.0 DEG RPM 5499.

HQ = 14.635 PSIA PINF = 13.694 PSIA ISC = 72.16 DEG F RHO = 0.00219 SLUGS/CU FT

M = 0.3199 V = 358.63 FPS Q = 141.037 PSF PSI = 0. DEG

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	424.21	418.88	401.17	398.61	388.39	388.39	375.01	375.01	337.05	371.87	387.86

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.66	14.75	14.80	14.83	14.87	14.92	14.95	14.98	14.99	14.99	14.99	15.01	15.01

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.01	15.01	15.01	15.01	15.00	14.99	13.49	14.93	14.71	14.31	14.71	14.71

TABLE VII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 632-6 CONFIGURATION L1C1E1B3PNTTIRRE THETA 3/4 = 42.0 DEG RPM 5500.

HQ = 14.626 PSIA PINF = 13.003 PSIA TSC = 74.76 DEG F RHO = 0.00210 SLUGS/CU FT

M = 0.4271 V = 476.29 FPS Q = 238.522 PSF PSI = 0. DEG

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RL	512.98	500.35	474.57	472.34	464.77	466.27	452.58	451.81	333.10	450.80	457.96

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.45	14.56	14.70	14.81	14.88	14.88	14.88	14.87	14.89	14.90	14.91	14.91	14.91

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.91	14.90	14.88	14.86	14.84	14.83	12.73	14.78	14.48	13.99	14.74	14.74

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

R24 - PT NO 634-4 CONFIGURATION L1C1E1B3PNTTIRRE THETA 3/4 = 58.0 DEG RPM 5349.

HQ = 14.625 PSIA PINF = 12.198 PSIA TSC = 81.14 DEG F RHO = 0.00199 SLUGS/CU FT

M = 0.5323 V = 592.01 FPS Q = 347.913 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RL	687.82	672.86	634.88	631.82	621.73	624.82	606.23	605.60	398.11	597.38	608.12

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.29	14.44	14.61	14.72	14.82	14.92	15.04	15.12	15.20	15.24	15.26	15.28	15.30

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.31	15.31	15.30	15.30	15.28	15.27	12.05	15.14	14.55	13.55	14.80	14.79

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 635-4 CONFIGURATION LIC1E1B3PNTTIRRE THEIA 3/4 = 46.0 DEG RPM 6001

HQ = 14.625 PSIA PINF = 12.998 PSIA TSC = 79.45 DEG F RHO = 0.00208 SLUGS/CU FT

M = 0.4276 V = 478.27 FPS Q = 239.048 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	551.64	543.05	510.19	509.48	498.77	498.77	485.03	483.55	379.88	480.63	494.10

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.54	14.67	14.74	14.80	14.90	14.96	15.02	15.06	15.09	15.09	15.12	15.13	15.14

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.14	15.15	15.13	15.12	15.11	15.10	12.71	15.03	14.65	14.02	14.74	14.75

TABLE VII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 636-2 CONFIGURATION L1C1E1B3PNTTIRRE THETA 3/4 = 46.0 DEG RPM 5472.

HQ = 14.625 PSIA PINE = 12.184 PSIA TSC = 84.65 DEG F RHO = 0.00197 SLUGS/CU FT

M = 0.5345 V = 595.74 FPS Q = 349.758 PSF PSI = 0. DEG

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	641.39	624.86	590.23	587.65	579.96	578.00	564.24	564.91	390.88	562.17	568.43

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.10	14.37	14.62	14.79	14.79	14.86	14.84	14.86	14.85	14.85	14.86	14.87	14.87
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.86	14.84	14.80	14.79	14.79	14.76	14.74	11.58	14.68	14.32	13.32	14.76	14.80

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 137 CONFIGURATION LIC1E1B3PWTR1RE THETA 3/4 = 30.0 DEG RPM 5500

H0 = 14.714 PSIA PINF = 14.648 PSIA TSC = 35.73 DEG F RHO = 0.00247 SLUGS/CU FT

M = 0.0488 V = 53.32 FPS Q = 3.514 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	10.90	13.6	—	49.	14.95	—	—	—
3	9.90	8.0	33.0	48.	15.07	14.66	216.10	179.49
4	8.90	7.2	-3.0	44.	15.07	14.65	216.75	214.73
5	7.90	7.6	-3.0	44.	15.04	14.65	211.19	209.33
6	6.90	8.0	-3.0	44.	15.01	14.66	200.33	198.11
7	5.90	8.3	-5.0	43.	14.98	14.67	189.38	186.67
8	4.90	9.0	-2.0	44.	14.95	14.66	182.81	180.45
9	3.90	9.6	-2.0	43.	14.92	14.63	182.81	180.14
10	2.90	10.5	-2.0	43.	14.96	14.66	187.01	183.77
11	1.90	12.0	1.0	43.	14.87	14.65	158.67	155.18
12	.90	14.8	-2.0	43.	14.86	14.65	156.38	151.09
13	0.00	17.7	-1.0	43.	14.80	14.65	132.33	126.06

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 138 CONFIGURATION L1C1E1B3PWTR1RE THETA 314 = 30.0 DEG RPM 6500

H0 = 14.714 PSIA PINF = 14.651 PSIA TSC = 36.51 DEG F RHO = 0.00247 SLUGS/CU FT

M = 0.0488 V = 53.35 FPS Q = 3.514 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.00	18.0	1.0	42.	14.87	14.66	156.23	148.57
3	0.90	14.8	0.0	42.	14.95	14.68	177.16	171.28
4	1.90	12.1	0.0	42.	14.98	14.67	189.19	184.99
5	2.90	10.6	-2.0	42.	15.00	14.67	194.66	191.35
6	3.90	9.8	-2.0	42.	15.03	14.65	208.88	205.71
7	4.90	9.4	-2.0	42.	15.08	14.66	219.91	216.73
8	5.90	8.5	-2.0	42.	15.11	14.66	226.38	223.75
9	6.90	8.3	-1.0	42.	15.15	14.66	236.22	233.72
10	7.90	8.7	-2.0	42.	15.23	14.65	257.00	254.04
11	8.90	7.5	-2.0	42.	15.26	14.67	347.76	344.56
12	9.90	8.4	-5.0	42.	15.27	14.69	257.00	253.27
13	10.90	14.1	—	42.	15.09	—	—	—



TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 139 CONFIGURATION LIC1E1B3PWTRIRE										THETA 3/4 = 30.0 DEG RPM 7500			
H0 = 14.724 PS1A P1NF = 14.654 PS1A TSC = 35.08 DEG F RHO = 0.00248 SLUGS/CU FT													
M = 0.0534 V = 52.35 FPS Q = 4.217 PSF PSI = 0. DEG													
PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PS1A	PS PS1A	V FPS	V PRIME FPS					
2	10.90	16.70	---	36.	15.28	---	---	---					
3	9.90	9.7	-6.0	36.	15.52	14.73	296.86	291.01					
4	8.90	8.0	-12.0	37.	15.57	14.71	309.65	299.96					
5	7.90	9.6	-1.0	37.	15.53	14.69	237.93	234.58					
6	6.90	9.7	-1.0	37.	15.39	14.69	280.77	276.73					
7	5.90	8.4	-1.0	37.	15.28	14.69	256.74	253.97					
8	4.90	9.3	-2.0	37.	15.25	14.68	254.55	251.06					
9	3.90	10.0	-4.0	37.	15.19	14.69	237.05	232.88					
10	2.90	10.7	-4.0	37.	15.15	14.70	226.15	221.67					
11	1.90	12.4	-4.0	37.	15.12	14.69	220.69	215.04					
12	0.90	15.2	-1.0	37.	15.07	14.69	207.78	200.49					
13	0.01	18.2	3.0	37.	14.94	14.69	169.51	160.81					

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 14E CONFIGURATION UICIE183PWTLR4RETP THETA 3/4 = 30.0 DEG RPM 5500

M0 = 14.702 PSIA PINF = 14.597 PSIA TSC = 40.93 DEG F RHO = 0.00244 SLUGS/CU FT

M = 0.1012 V = 111.14 FPS Q = 15.080 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	15.1	-1.0	37.	14.811	14.811	190.09	183.51
3	1.71	12.2	1.0	37.	14.866	14.863	148.58	145.21
4	2.71	19.8	4.0	37.	14.889	14.882	175.89	165.09
5	3.71	8.8	-3.0	37.	14.901	14.882	180.26	177.89
6	4.71	8.0	0.0	37.	14.938	14.883	189.00	187.16
7	5.71	7.8	0.0	37.	14.968	14.864	194.47	192.67
8	6.71	7.1	-2.0	37.	14.991	14.864	200.33	198.67
9	7.71	6.5	-2.0	39.	15.009	14.862	211.28	209.80
10	8.71	5.9	-2.0	39.	15.053	14.863	218.24	216.95
11	9.71	6.6	-6.0	39.	15.049	14.863	205.80	203.31
12	11.71	10.0		39.	14.919			

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 142 CONFIGURATION L1C1E1B3PW11R4RETP THETA 3/4 = 30.0 DEG RPM 6500

M0 = 14.693 PSIA PINF = 14.583 PSIA TSC = 43.53 DEG F RHO = 0.00243 SLUGS/CU FT

M = 0.1038 V = 114.28 FPS Q = 15.849 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	11.71	11.4	—	40.	15.073	14.67	259.70	257.03
3	10.71	7.2	-4.0	40.	15.265	14.67	264.59	262.68
4	9.71	6.6	-2.0	42.	15.256	14.67	258.00	256.11
5	8.71	6.9	-1.0	42.	15.210	14.67	247.03	244.71
6	7.71	7.6	-2.0	42.	15.191	14.67	237.15	234.70
7	6.71	8.0	-2.0	42.	15.135	14.67	230.56	227.83
8	5.71	8.6	-2.0	42.	15.104	14.67	215.19	212.64
9	4.71	8.8	-1.0	42.	15.040	14.67	206.63	203.73
10	3.71	9.4	-2.0	43.	15.009	14.67	201.14	197.39
11	2.71	10.9	-2.0	43.	14.985	14.67	186.85	181.66
12	1.71	13.2	-3.0	43.	14.939	14.67	168.16	161.67
13	0.81	15.7	1.0	43.	14.856	14.67		

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUM NO 143 CONFIGURATION LIC1E1B3PW11R4RETP										THETA 3/4 = 30.0 DEG		RPM 7500	
H0 = 14.692 PSIA		PINF = 14.587 PSIA		TSC = 45.49 DEG F		RHO = 0.00242 SLUGS/CU FT							
M = 0.1013		V = 111.68 FPS		Q = 15.080 PSF		PSI = 0. DEG							
PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS					
2	0.81	16.4	-1.0	43.	14.896	14.001	184.65	177.12					
3	1.71	13.7	1.0	44.	15.017	14.002	215.64	209.48					
4	2.71	11.2	-1.0	44.	15.074	14.001	231.04	226.62					
5	3.71	9.9	-2.0	44.	15.119	14.003	237.64	233.96					
6	4.71	9.3	-2.0	44.	15.165	14.004	247.55	244.15					
7	5.71	8.7	-2.0	44.	15.224	14.003	261.85	258.68					
8	6.71	8.4	-3.0	44.	15.285	14.004	272.85	269.54					
9	7.71	9.3	-1.0	44.	15.434	14.003	302.56	298.56					
10	8.71	8.0	-1.0	44.	15.505	14.006	309.16	306.12					
11	9.71	7.3	-3.0	45.	15.518	14.007	339.17	335.95					
12	11.71	14.6	—	46.	15.215	—	—	—					
13	10.71	9.1	-7.0	46.	15.478	14.009	319.67	313.31					

## HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 144 CONFIGURATION L1C1E1B3PWT1R4RETP THETA 3/4 = 25.0 DEG RPM 5500

H0 = 14.675 PSIA    PINF = 14.675 PSIA    TSC = 40.41 DEG F    RHO = 0.00245 SLUGS/CU FT

**M = 0.      V = 0.      FPS    Q = 0.      PSF    PSI = 0.    DEG**

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	11.71	11.6	—	41.	14.855	—	—	—
3	10.71	6.5	-4.0	42.	14.962	14.69	176.76	175.20
4	9.71	5.9	-3.0	42.	14.961	14.67	184.45	183.22
5	8.71	6.1	-3.0	42.	14.962	14.67	183.35	182.06
6	7.71	6.7	-3.0	42.	14.941	14.66	180.06	178.58
7	6.71	7.2	-4.0	42.	14.931	14.67	174.57	172.78
8	5.71	8.4	-1.0	42.	14.914	14.66	170.17	168.33
9	4.71	8.9	1.0	42.	14.890	14.66	163.59	161.60
10	3.71	10.0	-1.0	42.	14.869	14.66	157.00	154.60
11	2.71	11.1	-1.0	42.	14.855	14.66	152.61	149.74
12	1.71	13.5	-1.0	42.	14.842	14.65	149.31	145.17
13	0.81	16.9	3.0	42.	14.798	14.66	128.45	122.73

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 149 CONFIGURATION LIC1E183PWT1R4RETP THETA 3/4 = 25.0 DEG RPM 6500

H0 = 14.683 PSIA PINF = 14.654 PSIA TSC = 42.23 DEG F RHO = 0.00244 SLUGS/CU FT

M = 0.0534 V = 58.77 FPS Q = 4.216 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	17.0	4.0	40.	14.861	14.861	152.32	145.31
3	1.71	14.1	-1.0	40.	14.903	14.866	166.56	161.51
4	2.71	11.4	-1.0	41.	14.931	14.866	177.70	174.18
5	3.71	10.2	-1.0	41.	14.957	14.866	187.57	184.59
6	4.71	9.2	-1.0	42.	14.988	14.867	193.23	190.73
7	5.71	8.4	-4.0	42.	15.018	14.866	204.21	201.53
8	6.71	7.7	-2.0	42.	15.043	14.868	197.62	195.82
9	7.71	7.1	-2.0	42.	15.070	14.867	214.09	212.43
10	8.71	6.5	-1.0	42.	15.083	14.866	220.68	219.24
11	9.71	6.2	-4.0	42.	15.094	14.867	219.58	217.77
12	10.71	6.7	-8.0	42.	15.097	14.869	218.48	214.88
13	11.71	12.2	—	42.	14.963	—	—	—

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 150 CONFIGURATION L1C1E1B3PWT1R4RETP THETA 3/4 = 25.0 DEG RPM 7500

H0 = 14.679 PSIA PINF = 14.652 PSIA TSC = 43.53 DEG F RHO = 0.00243 SLUGS/CU FT

M = 0.0507 V = 55.83 FPS Q = 3.795 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	11.71	12.6	—	40.	15.115	—	—	—
3	10.71	7.2	7.0	42.	15.303	14.71	260.20	256.24
4	9.71	6.4	-3.0	42.	15.315	14.69	267.89	274.78
5	8.71	7.1	-1.0	42.	15.294	14.67	266.79	264.72
6	7.71	7.4	-2.0	42.	15.226	14.67	253.61	251.35
7	6.71	8.1	-2.0	42.	15.190	14.68	242.64	240.07
8	5.71	8.7	-2.0	42.	15.138	14.68	229.46	226.68
9	4.71	9.2	-2.0	42.	15.089	14.68	217.38	214.46
10	3.71	10.2	-2.0	43.	15.052	14.68	206.63	203.24
11	2.71	11.4	-4.0	43.	15.015	14.66	204.43	199.92
12	1.71	14.1	-1.0	43.	14.982	14.67	190.14	184.39
13	0.81	17.3	-1.0	43.	14.907	14.67	193.44	184.67
14	11.71	12.6	—	44.	15.125	—	—	—

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 158 CONFIGURATION L1C1E184PNTT1R1RETP THETA 3/4 = 30.0 DEG RPM 5500

H0 = 14.771 PSIA PINF = 14.771 PSIA TSC = 40.93 DEG F RHO = 0.00247 SLUGS/CU FT

M = 0.0097 V = 10.68 FPS Q = 0.141 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	11.71	13.6	—	44.	—	14.765	—	—
3	10.71	8.8	-4.0	44.	14.777	14.755	180.43	177.88
4	9.71	7.8	-4.0	44.	14.777	14.747	191.43	189.20
5	8.71	9.1	-2.0	44.	14.776	14.743	200.24	197.55
6	5.71	11.8	-2.0	44.	14.776	14.743	200.24	198.89
7	2.71	16.6	-1.0	44.	14.776	14.740	187.03	179.22
8	1.71	19.3	1.0	44.	14.775	14.732	173.83	164.04
9	0.81	20.8	4.0	44.	14.774	14.734	146.53	138.52



TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 159 CONFIGURATION UIC1E1B4PNTTIR1RETP THETA 3/4 = 30.0 DEG RPM 7500

H0 = 14.780 PSIA PINF = 14.778 PSIA TSC = 42.23 DEG F RHO = 0.00246 SLUGS/CU FT

M = 0.0119 V = 13.09 FPS Q = 0.211 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	20.5	4.0	44.	15.020	14.77	183.73	171.68
3	1.71	19.5	2.0	44.	15.202	14.77	227.74	214.55
4	2.71	17.0	-1.0	44.	15.315	14.76	243.14	232.49
5	5.71	12.3	-2.0	44.	15.453	14.76	276.15	269.65
6	8.71	9.9	-3.0	44.	15.561	14.76	297.05	292.22
7	9.71	10.5	-4.0	44.	15.473	14.75	265.15	263.08
8	10.71	9.5	-5.0	44.	15.316	14.74	246.44	240.70
9	11.71	15.9	—	44.	15.110	—	—	—

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 162 CONFIGURATION LIC1E1B4PNTT1R1RET P										THETA 3/4 = 30.0 DEG		RPM 5500	
H0 = 14.791 PSIA PINF = 14.791 PSIA TSC = 50.82 DEG F										RHO = 0.00242 SLUGS/CU FT			
M = 0.0 V = 0.0 FPS Q = 0.0 PSF PSI = 0.0 DEG													
PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS					
2	11.71	-2.1	4.0	44.	14.651	14.044	153.43	157.94					
3	10.71	-2.8	-2.0	55.	14.879	14.047	221.31	220.91					
4	9.71	3.5	-2.0	55.	14.960	14.046	244.66	244.06					
5	8.71	4.1	-1.0	55.	14.992	14.045	253.56	252.89					
6	7.21	4.9	-1.0	55.	15.019	14.046	259.12	258.15					
7	5.71	6.4	-1.0	55.	15.014	14.047	253.56	251.96					
8	2.71	8.6	-1.0	55.	14.961	14.047	242.44	239.69					
9	1.71	10.5	1.0	55.	14.935	14.047	237.99	233.98					
10	0.81	12.8	1.0	55.	14.854	14.047	213.52	208.19					

TABLE VIII

## HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 163 CONFIGURATION L1C1E1B4PNTIIR1RETP THETA 3/4 = 30.0 DEG RPM 7500

H0 = 14.809 PSIA PINF = 14.809 PSIA TSC = 52.12 DEG F RHQ = 0.00242 SLUGS/CU FT

M = 0.0 V = 0.0 FPS Q = 0.0 PSF PSI = 0.0 DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	16.0	4.0	48.	14.978	14.48	242.99	233.02
3	1.71	14.4	-2.0	48.	15.158	14.49	279.44	270.50
4	2.71	12.0	-2.0	52.	15.217	14.49	292.75	286.18
5	3.71	10.6	-2.0	52.	15.256	14.48	302.73	297.39
6	4.71	9.8	-2.0	52.	15.299	14.50	306.06	301.41
7	5.71	9.0	-3.0	52.	15.331	14.51	309.38	305.14
8	8.71	6.6	-1.0	52.	15.376	14.50	320.47	318.31
9	9.71	6.4	—	52.	15.310	—	—	—
10	10.71	5.5	-3.0	53.	15.133	14.52	268.35	266.74
11	11.71	3.8	—	53.	14.773	—	—	—

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 165 CONFIGURATION L1C1E183PNT11R1RET P THETA 3/4 = 30.0 DEG RPM 5500

H0 = 14.821 PSIA PINF = 14.796 PSIA TSC = 44.83 DEG F RHO = 0.00245 SLUGS/CU FT

M = 0.0495 V = 54.59 FPS Q = 3.654 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	11.71	12.4	—	44.	14.981	14.82	180.43	177.31
3	10.71	8.1	-7.0	44.	15.105	14.82	191.43	188.87
4	9.71	8.5	-4.0	44.	15.142	14.81	200.42	197.78
5	8.71	9.1	-2.0	45.	15.156	14.82	197.11	192.90
6	5.71	11.7	-2.0	45.	15.158	14.81	196.01	186.72
7	2.71	17.6	-2.0	45.	15.145	14.79	188.31	174.62
8	1.71	21.9	2.0	45.	15.098	14.79	151.97	137.76
9	0.81	23.4	-9.0	45.	14.988	14.79		

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 166 CONFIGURATION LICIE1B3PNTTIR1RETP THETA 3/4 = 30.0 DEG RPM 7500

H0 = 14.819 PSIA PINF = 14.793 PSIA TSC = 48.09 DEG F RHO = 0.00244 SLUGS/CU FT

M = 0.0495 V = 54.77 FPS Q = 3.654 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	22.2	0.0	46.	15.095	14.77	191.80	175.86
3	1.71	22.3	1.0	47.	15.305	14.70	247.16	228.65
4	2.71	18.3	-2.0	47.	15.432	14.80	269.23	255.46
5	5.71	12.3	-2.0	47.	15.504	14.83	275.85	269.36
6	8.71	9.7	-3.0	48.	15.570	14.82	292.69	288.10
7	9.71	9.7	-3.0	48.	15.555	14.86	281.65	277.23
8	10.71	9.8	-10.0	48.	15.389	14.84	250.72	243.31
9	11.71	14.4	—	48.	15.187	—	—	—

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TR. JERSING PROBE DATA

RUN NO 168 CONFIGURATION L1C1E1B3PNTT1R1RETP THETA 3/4 = 30.0 DEG RPM 5500

H0 = 14.819 PSIA PINF = 14.413 PSIA TSC = 58.63 DEG F RHO = 0.00234 SLUGS/CU FT

M = 0.1996 V = 222.25 FPS Q = 57.857 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	11.71	-2.0	3.0	51.	14.678	14.48	155.09	154.78
3	10.71	3.1	-2.0	56.	14.927	14.49	229.32	228.85
4	9.71	3.1	-2.0	58.	14.974	14.48	242.04	241.54
5	8.71	3.8	-1.0	58.	15.001	14.47	252.08	251.50
6	5.71	6.0	-1.0	58.	15.026	14.50	252.08	250.67
7	2.71	8.6	-1.0	58.	14.980	14.47	250.97	248.12
8	1.71	10.4	-1.0	58.	14.953	14.50	232.00	228.17
9	0.81	13.3	3.0	58.	14.879	14.50	240.93	234.14

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 169 CONFIGURATION LIC1E1B3PNTTIR1RETP									
H0 = 14.821 PSIA PINF = 14.416 PSIA TSC = 60.45 DEG F RHO = 0.00233 SLUGS/CU FT									
M = 0.1995 V = 222.63 FPS Q = 57.857 PSF PSI = 0. DEG									
PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS	
2	0.81	17.8	5.0	58.	14.954	14.447	239.81	227.46	
3	1.71	15.7	1.0	58.	15.178	14.660	284.43	273.79	
4	2.71	12.2	-2.0	58.	15.242	14.651	294.47	287.65	
5	5.71	8.7	-2.0	59.	15.327	14.552	309.24	305.50	
6	8.71	6.2	—	59.	15.354	—	—	—	
7	9.71	5.2	-2.0	61.	15.326	14.52	309.85	307.85	
8	10.71	5.8	-4.0	62.	15.206	14.54	283.28	281.15	
9	11.71	5.2	-6.0	62.	14.860	14.51	207.14	204.29	

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 171 CONFIGURATION LIC1E1B3PRT1R1RET P THETA 3/4 = 30.0 DEG RPM 5500

HO = 14.849 PSIA PINF = 14.824 PSIA TSC = 49.39 DEG F RHO = 0.00243 SLUGS/CU FT

M = 0.0495 V = 54.79 FPS Q = 3.654 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	11.71	15.0	—	53.	15.080	—	—	—
3	10.71	9.5	-4.0	53.	15.202	14.85	202.02	198.77
4	9.71	8.8	-2.0	52.	15.199	14.84	205.15	202.61
5	8.71	9.2	-2.0	50.	15.198	14.84	204.74	201.99
6	5.71	11.1	-1.0	52.	15.153	14.84	189.62	186.05
7	2.71	16.3	-1.0	51.	15.082	14.83	170.60	163.73
8	1.71	16.4	-1.0	51.	15.018	14.82	152.88	146.65
9	0.81	17.8	-5.0	51.	14.974	14.83	128.50	121.88



TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 172 CONFIGURATION LICIE183PRTIRIRETP									
H0 = 14.851 PSIA PINF = 14.825 PSIA TSC = 50.69 DEG F RHQ = 0.00243 SLUGS/CU FT									
M = 0.0495 V = 54.86 FPS Q = 3.654 PSF PSI = 0. DEG									
PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS	
2	11.71	18.1	-3.0	57.	15.388	14.809	241.80	229.51	
3	10.71	11.0	-6.0	57.	15.634	14.809	291.95	285.01	
4	9.7	19.5	-4.0	56.	15.672	14.809	301.68	283.69	
5	8.71	20.5	—	56.	15.664	—	—	—	
6	5.71	12.0	-2.0	56.	15.475	14.809	268.28	262.26	
7	2.71	16.2	-1.0	56.	15.265	14.82	227.09	218.05	
8	1.71	16.2	4.0	56.	15.144	14.822	193.70	185.56	
9	0.81	17.2	3.0	56.	15.058	14.822	168.09	160.35	

THETA 3/4 = 30.0 DEG RPM 7500

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 173 CONFIGURATION LIC1E1B3PRT1R1RET P THETA 3/4 = 30.0 DEG RPM 5500

H0 = 14.851 PSIA PINF = 14.445 PSIA TSC = 64.35 DEG F RHO = 0.00232 SLUGS/CU FT

M = 0.1993 V = 223.24 FPS Q = 57.858 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THEIA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	10.9	2.0	57.	14.878	14.52	207.26	203.40
3	1.71	19.1	-1.0	58.	14.948	14.53	224.20	211.84
4	2.71	7.6	-3.0	59.	14.989	14.53	234.44	232.06
5	5.71	5.6	0.0	61.	15.045	14.53	250.57	249.40
6	8.71	3.7	-1.0	61.	15.042	14.51	252.80	252.25
7	9.71	3.3	-2.0	62.	15.040	14.52	250.81	250.24
8	10.71	4.3	-4.0	62.	15.035	14.53	246.33	245.05
9	11.71	1.7	—	62.	14.756	—	—	—

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 174 CONFIGURATION L1C1E1B3PRT1R1RETP THETA 3/4 = 30.0 DEG RPM 7500

HO = 14.850 PSIA PINF = 14.445 PSIA TSC = 66.96 DEG F RHO = 0.00231 SLUGS/CU FT

M = 0.1992 V = 223.66 FPS Q = 57.789 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	11.71	8.3	—	64.	15.095	—	—	—
3	10.71	7.2	-5.0	65.	15.433	14.89	316.66	312.97
4	9.71	6.5	-2.0	66.	15.443	14.86	324.81	322.53
5	8.71	6.6	-1.0	66.	15.433	14.84	325.93	323.74
6	5.71	8.2	-3.0	67.	15.330	14.85	306.00	302.45
7	2.71	11.5	0.0	67.	15.194	14.84	281.25	275.60
8	1.71	12.2	1.0	67.	15.062	14.82	256.50	250.68
9	0.81	11.1	3.0	67.	14.942	14.83	246.38	241.43

HSD SHROUDED PROPELLER TEST

RHAB I - 18 FT TEST SECTION

TRAVERSING PROBE DATA

RUN NO 316 CONFIGURATION L1C1E1B3PM11R1R1E110TP THETA 3/4 = 35.0 DEG RPM 5500

H0 = 14.897 PSIA PINF = 141668 PSIA ISC = 57.20 DEG F RHO = 0.00241 SLUGS/CU FT

M = 0.0530 V = 59.21 FPS Q = 4.216 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	P6 PSIA	V FPS	V PRIME FPS
2	0.81	11.9	3.0	50.	15.068	14.79	181.50	177.35
3	1.71	13.6	0.0	49.	15.152	14.87	181.32	176.24
4	2.71	12.5	-1.0	49.	15.174	14.88	183.53	179.16
5	5.71	10.5	-1.0	49.	15.250	14.89	204.54	201.09
6	8.71	9.8	-1.0	49.	15.251	14.88	206.75	203.71
7	9.71	10.2	-2.0	49.	15.278	14.88	214.49	210.97
8	10.71	13.4	-1.0	49.	15.294	14.88	204.54	198.95
9	11.51	22.7	—	49.	15.158	—	—	—

HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

TRAVERSING PROBE DATA

RUN NO 317 CONFIGURATION L1C1E1B3PMT1R1R1E110TP THETA 3/4 = 35.0 DEG RPM 7500

HO = 14.889 PSIA PINE = 14.855 PSIA TSC = 58.63 DEG F RHO = 0.00240 SLUGS/CU FT

M = 0.0569 V = 63.60 FPS Q = 4.848 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	R6 PSIA	V FPS	V PRIME FPS
2	11.71	23.0	—	53.	15.438	—	—	—
3	10.71	14.5	-5.0	57.	15.744	14.92	306.43	295.54
4	9.71	11.0	-3.0	58.	15.784	14.90	319.00	312.70
5	8.71	11.6	-1.0	57.	15.680	14.86	307.55	301.24
6	5.71	10.0	-2.0	57.	15.470	14.86	266.32	262.12
7	2.71	12.8	0.0	56.	15.432	14.87	254.92	248.59
8	1.71	14.0	1.0	55.	15.312	14.85	231.32	224.43
9	0.81	11.3	4.0	56.	15.189	14.87	193.70	189.49

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 318 CONFIGURATION L161E183PW11R1R1E110TP THETA 3/4 = 35.0 DEG RPM 5500

HQ = 14.879 PSIA PINF = 14.450 PSIA ISC = 76.07 DEG F RH0 = 0.00223 SLUGS/ICU FT

M = 0.2050 V = 232.12 EPS Q = 61.234 PSR PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	7.1	0.0	50.	14.934	14.09	168.22	166.93
3	1.71	4.0	-4.0	53.	14.978	14.86	223.11	222.03
4	2.71	2.5	-1.0	72.	14.979	14.87	224.93	224.69
5	5.71	3.1	-2.0	73.	15.113	14.87	256.83	256.30
6	8.71	2.9	-2.0	74.	15.190	14.83	284.26	283.73
7	9.71	3.2	-2.0	75.	15.208	14.86	281.11	280.50
8	10.71	4.3	-4.0	75.	15.216	14.88	279.97	278.51
9	11.71	5.1	—	76.	14.903	—	—	—

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HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

TRAVERSING PROBE DATA

RUN NO 319 CONFIGURATION L1C1E1B3PM1IR1RE1I0TP									
THETA 3/4 = 35.0 DEG RPM 7500									
NO = 14.879 PSIA PINE = 14.550 PSIA TSC = 81.27 DEG F RH0 = 0.00225 SLUGS/CU FT									
M = 0.2049 V = 233.11 FPS Q = 614.165 PSF PSI = 0. DEG									
PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS	PSIA	V FPS	V PRIME FPS
2	11.71	11.4	—	75.	15.233	—	—	—	—
3	10.71	7.9	-4.0	77.	15.689	14.65	14.65	355.44	351.22
4	9.71	7.0	-2.0	78.	15.740	14.62	14.62	367.15	364.20
5	8.71	7.2	-1.0	79.	15.710	14.58	14.58	369.79	366.84
6	5.71	5.3	-2.0	80.	15.358	14.56	14.56	313.17	311.64
7	2.71	5.3	0.0	80.	15.230	14.57	14.57	284.70	283.48
8	1.71	8.1	1.0	81.	15.130	14.58	14.58	275.86	273.08
9	0.81	8.3	3.0	81.	15.088	14.59	14.59	249.64	246.68

# TABLE VIII

## HSD SMROUNDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

### TRAVERSING PROBE DATA

RUN NO 320 CONFIGURATION L1C1E1B3PNI1R1R1E1P1O1P									
H0 = 14.888 PSIA P1NF = 14.551 PSIA TSC = 79.97 DEG F RHO = 0.00226 SLUGS/CU FT									
M = 0.2069 V = 235.02 FPS Q = 62.336 PSF PSI = 0. DEG									
PT NO	PROBE DISTANCE FROM HMB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	RS RSIA	V FPS	V PRIME FPS	
2	0.81	14.3	1.0	74.	14.884	14.886	199.32	193.13	
3	1.71	13.7	-1.0	75.	14.943	14.934	222.17	215.83	
4	2.71	12.3	-2.0	76.	14.908	14.94	239.40	233.77	
5	5.71	9.6	1.0	77.	15.082	14.95	255.51	251.91	
6	8.71	8.6	0.0	78.	15.171	14.94	268.26	265.25	
7	9.71	8.1	-2.0	79.	15.183	14.96	277.62	274.68	
8	10.71	8.5	-4.0	79.	15.185	14.96	275.35	271.67	
9	11.71	7.6	—	80.	14.888	—	—	—	

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TABLE VIII

E330590-1

## HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 321		CONFIGURATION L1C1E1B3PMTTIRIRI10TP		THETA 3/4 = 35.0 DEG		RPM 7500	
H0 = 14.879 PSIA		PINF = 14.444 PSIA		T6C = 82.57 DEG F		RH0 = 0.00225 SLUGS/CU FT	
M = 0.2633		V = 234.99 FPS		Q = 611.991 PSF		PSI = 0.0 DEG	
PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	RS RSIA	V BRINE FPS
2	11.71	13.2	—	78.	15.340	—	—
3	10.71	13.7	-5.0	79.	15.741	14.65	351.29
4	9.71	13.3	-2.0	80.	15.750	14.62	359.97
5	8.71	12.4	-2.0	80.	15.718	14.60	360.15
6	5.71	11.3	-2.0	81.	15.362	14.51	317.26
7	2.71	15.4	-2.0	82.	15.178	14.52	275.92
8	1.71	17.2	0.0	82.	15.086	14.52	255.03
9	0.81	16.8	4.0	82.	14.948	14.52	222.27

TABLE VIII

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## HSD SHROUDED PROPELLER TEST

WASB I - 13 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 323 CONE CONFIGURATION L161E183PRT31R8TP THETA 3/4 = 35.0 DEG RPM 5500

H0 = 14.900 PSIA PINE = 14.874 PSIA ISC = 57.20 DEG F RH0 = 0.00241 SLUGS/CU FT

M = 0.0573 V = 63.03 FPS Q = 4.918 PSF PSI = 0.0 DEG

PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	RS RSIA	V FPS	V PRIME FPS
2	0.81	18.5	1.0	57.	15.054	14.008	141.52	134.19
3	1.71	27.3	3.0	58.	15.116	14.084	182.93	174.41
4	2.71	16.9	-1.0	57.	15.179	14.088	187.20	179.10
5	5.71	13.0	-1.0	57.	15.311	15.011	187.20	182.38
6	8.71	12.4	-2.0	57.	15.289	14.009	218.40	213.18
7	9.71	12.4	-2.0	57.	15.280	14.009	212.83	207.74
8	10.71	14.8	-7.0	57.	15.239	14.091	196.12	188.21
9	11.71	20.9	34.0	57.	15.124	14.091	158.23	126.71

**PHASE I - 18 PT TEST SECTION**

## TRAVELING PROBE DATA

RUN NO 324 CONFIGURATION L1C1E1B3PRV3R1R1ETP  
 THETA 3/4 = 35.0 DEG RPM 7500

RH0 = 14.916 PSIA    RINE = 14.885 PSIA    T6C = 58.63 DEG F    RHD = 0.00240 SLUGS/CU FT

M = 010552 V = 61.67 FPS Q = 4.567 PSF PGI = 0. BEB

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	RS PSIA	V FPS	V PRIME FPS
2	11.71	22.3	-1.0	57.	15.424	14.94	244.03	225.76
3	10.71	15.2	-2.0	57.	15.670	14.94	259.72	279.42
4	9.71	13.6	-3.0	57.	15.687	14.91	299.75	290.54
5	8.71	12.4	-3.0	57.	15.673	14.92	294.18	286.02
6	5.71	13.6	-3.0	57.	15.687	14.90	301.98	293.10
7	2.71	16.8	-2.0	57.	15.399	14.86	250.72	239.88
8	1.71	16.8	-6.0	59.	15.264	14.86	216.58	206.20
9	0.81	17.9	—	59.	15.168	—	—	—

TABLE VIII

HSD SHROUDED PROPELLER TEST

RMASE I - 18 FT TEST SECTION

TRAVERSING PROBE DATA

RUN NO 325 CONFIGURATION L1C1E183PRT3R1RETP THETA 3/4 = 35.0 DEG RPM 5500

HQ = 14.889 PSIA RINE = 14.474 PSIA TSC = 75.55 DEG F RHD = 0.00228 SLUGS/CU FT

M = 0.2013 V = 227.77 FPS Q = 59.100 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	RS PSIA	M	V FPS	V PRIME FPS
2	0.81	11.5	1.0	60.	14.928	14.88	204.50	200.37	
3	1.72	11.5	-1.0	60.	15.043	14.57	236.91	232.13	
4	2.71	9.4	0.0	75.	15.088	14.59	248.24	244.91	
5	5.71	6.5	-1.0	76.	15.136	14.56	267.77	266.02	
6	8.71	4.8	1.0	76.	15.160	14.55	274.57	273.58	
7	9.71	4.5	-1.0	76.	15.169	14.57	272.30	271.43	
8	10.71	5.2	-3.0	76.	15.172	14.60	264.36	263.25	
9	11.71	0.	-10.0	76.	14.813	14.55	180.40	180.15	

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TABLE VIII

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HSD SHROUDED PROPELLER TEST

RHASE I - 18 FT TEST SECTION

TRAVERSING PROBE DATA

RUA NO 326 CONFIGURATION L1C1E1B3P13R1R1ETP THETA 3/4 = 35.0 DEG RPM 7500

HQ = 14.887 PSIA PINE = 14.468 PSIA TSC = 79.06 DEG F RHQ = 0.00226 SLUGS/CU FT

M = 0.2025 V = 229.88 FPS Q = 59.789 PSF PSI = 0. DEG

PD NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	11.71	11.0	-6.0	73.	15.177	14.63	344.92	338.52
3	10.71	9.3	-4.0	76.	15.616	14.61	355.13	351.00
4	9.71	7.8	-2.0	76.	15.659	14.60	362.26	358.43
5	8.71	6.1	-2.0	77.	15.692	14.59	333.05	328.19
6	5.71	4.6	-1.0	78.	15.592	14.54	295.54	288.62
7	2.71	12.4	2.0	78.	15.254	14.57	258.28	253.12
8	1.71	11.3	2.0	79.	15.114	14.47	257.14	251.83
9	0.81	11.5	2.0	79.	14.995			

TABLE VIII

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H30 SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

TRAVERSING PROBE DATA

RUN NO 328 CONFIGURATION L1C1E3B3PM11R1RETP									
H0 = 14.874 PSIA P1NF = 14.840 PSIA TSC = 61.10 DEG F RHO = 0.00238 SLUGS/CU FT									
M = 0.0573 V = 64.25 FPS Q = 4.918 PSF PSI = 0. DEG									
PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS	
2	13.21	11.6	—	43.	14.949	—	—	—	—
3	11.81	2.5	-6.0	44.	15.188	14.87	191.43	189.39	
4	9.81	4.1	-3.0	43.	15.176	14.83	200.04	199.25	
5	8.01	5.5	-6.0	43.	15.161	14.85	187.95	186.06	
6	6.21	7.2	-1.0	43.	15.130	14.84	183.55	182.08	
7	4.41	8.8	-4.0	43.	15.076	14.82	173.66	171.20	
8	2.61	10.6	-5.0	43.	15.052	14.83	159.37	156.06	
9	0.81	15.7	-6.0	43.	14.972	14.81	136.29	130.48	

TABLE VIII

## HSD SHROUDED PROPELLER TEST

RWASE I - 18 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 329 CONE CONFIGURATION L1C1E3B3PMT11R1RETP									
H0 = 14.869 PSIA PINE = 14.839 PSIA TSC = 61.75 DEG F RHO = 0.00230 SLUGS/CU FT									
M = 0.0535 V = 60.02 ERS Q = 4.286 PSF PSI = 0. BEG									
PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V. PRIME FPS	
2	0.81	15.7	—	45.	15.027	—	—	—	—
3	2.61	11.2	-2.0	47.	15.195	14.81	210.75	206.61	—
4	4.41	18.9	-5.0	47.	15.260	14.80	230.61	217.35	—
5	6.21	17.8	-4.0	47.	15.358	14.80	253.78	241.05	—
6	8.01	6.5	-6.0	47.	15.465	14.82	270.33	267.12	—
7	10.01	4.5	-5.0	49.	15.557	14.83	288.56	286.58	—
8	11.61	3.1	-9.0	50.	15.563	14.87	281.10	277.24	—
9	13.21	13.0	—	52.	15.079	—	—	—	—

TABLE VIII

HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

TRAVERSING PROBE DATA

RUN NO 331 CONFIGURATION L4C1E3B3PW1R1RETP THETA 3/4 = 30.0 DEG RPM 5500

HO = 14.848 PSIA PIME = 14.438 PSIA ISC = 66.44 DEG F RHD = 0.00231 SLUGS/CU FT

M = 0.2005 V = 224.92 FPS Q = 58.478 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V. PRIME FPS
2	13.21	-1.1	10.0	48.	14.814	14.46	204.33	201.19
3	11.41	-0.7	-8.0	49.	14.850	14.46	241.02	238.67
4	9.81	-1.1	-2.0	50.	14.865	14.44	249.01	248.82
5	8.01	0.5	-4.0	50.	14.970	14.43	253.43	252.81
6	6.21	2.0	-4.0	50.	14.967	14.45	247.90	247.15
7	4.41	2.8	-2.0	50.	14.945	14.45	243.47	243.03
8	2.61	3.9	-2.0	50.	14.906	14.46	231.30	230.63
9	0.81	5.9	—	50.	14.842	—	—	—

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TABLE VIII

HSD SHROUDED PROPELLER TEST  
PHASE I - 18 FT TEST SECTION  
TRANSVERSING PROBE DATA

RUN NO 332 CONFIGURATION L1C1E3B3PW11R1R1E1P THETA 37.4 ± 30.0 DEG RPM 7500  
HO ± 14.031 PSIA RINE ± 14.621 PSIA TSC ± 66.96 DEG F RHD ± 0.00231 SLUGS/CU FT  
M ± 0.12007 V ± 225.29 ERS Q ± 50.546 PSF PSI ± 0. DEG

PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	P% PSIA	V FRS	V PRIME FPS
2	0.81	6.8	0.0	48.	14.892	230.84	229.22
3	2.61	6.2	-2.0	48.	15.030	268.39	266.66
4	4.41	5.2	-3.0	50.	15.110	286.56	284.98
5	6.21	4.8	-3.0	50.	15.226	306.47	304.97
6	8.01	3.2	-3.0	51.	15.233	312.40	311.48
7	9.81	1.6	-3.0	52.	15.255	312.71	312.15
8	11.61	1.5	-8.0	52.	15.235	296.08	293.11
9	13.21	1.8	5.0	52.	14.786	205.15	204.27

# TABLE VIII

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## HSD SHROUDED PROPELLER TEST

RMASE I - 18 FT TEST SECTION

### TRAVERSING PROBE DATA

RUN NO 334 CONFIGURATION L2SCG1SCB3PWT1R1RETP THETA 3/5 = 30.0 DEG RPM 5500

H0 = 24.582 PSIA PINE = 14.657 PSIA TSC = 53.94 DEG F RHO = 0.00237 SLUGS/CU FT

M = 0J0407 Y = 55.34 FR6 Q = 3.654 PS6 PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	RS PSIA	V FR6	V. PRIME FR6
2	11.71	9.7	—	55.	14.961	—	—	—
3	10.71	7.6	-6.0	55.	15.052	14.47	212.41	209.39
4	9.71	7.4	-2.0	55.	15.045	14.66	214.64	212.72
5	8.71	8.5	-2.0	55.	15.030	14.67	206.85	204.46
6	5.71	10.0	-6.0	55.	14.953	14.66	186.83	182.98
7	2.71	13.3	-1.0	55.	14.888	14.66	169.04	164.49
8	1.71	14.9	-1.0	55.	14.886	14.65	162.37	156.90
9	0.81	18.4	2.0	54.	14.809	14.67	129.99	123.27

TABLE VIII

E330590 - 1

H30 SHROUDED PROPELLER TEST

RHASE I - 10 FT TEST SECTION

TRANSVERSING PROBE DATA

RUN NO 335 CONFIGURATION LISCC1SC1SC3PWTTIR1RETP THETA 3/4 = 30.0 DEG RPM 5500

H0 = 14.653 PSIA PINE = 14.275 PSIA ISC = 70.21 DEG F RHB = 0.00227 SLUGS/CU FT

M = 0.1937 V = 218.18 FPS Q = 53.980 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	8.3	1.0	65.	14.684	14.38	202.12	199.98
3	2.71	7.8	-1.0	67.	14.726	14.33	222.75	220.67
4	2.71	6.5	—	69.	14.756	—	—	—
5	5.71	4.8	-1.0	70.	14.830	14.32	251.59	250.68
6	8.71	3.1	-4.0	70.	14.846	14.28	266.26	265.23
7	9.71	2.9	-4.0	70.	14.838	14.27	266.26	265.28
8	10.71	3.6	-4.0	70.	14.881	14.29	259.49	258.36
9	11.71	7.2	-10.0	70.	14.659	14.27	211.13	206.28

# TABLE VIII

## HSD SHROUDED PROPELLER TEST

RUN 1 → 18 FT TEST SECTION

### TRAVERSING PROBE DATA

RUN NO 360 CONFIGURATION LISC6150E15CB3PNTT1R1RTP. THETA 3/4 = 30.0 DEG RPM 7500

HO = 14.557 PSIA RINF = 14.528 PSIA TSC = 54.72 DEG F RHD = 0.00235 SLUGS/INCU FT

M = 0.0537 V = 50.75 FPS Q = 4.216 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	RS PSIA	V FPS	V BRINE FPS
2	0.81	19.0	3.0	55.	14.802	14.53	179.05	169.06
3	1.71	16.4	-1.0	55.	14.919	14.55	210.19	201.62
4	2.71	13.8	-2.0	55.	14.969	14.54	225.76	219.11
5	5.71	10.4	-2.0	56.	15.101	14.44	279.41	274.65
6	8.71	10.7	-2.0	56.	15.249	14.54	289.43	284.23
7	9.71	9.3	-2.0	56.	15.369	14.55	310.58	306.32
8	10.71	8.6	-2.0	56.	15.360	14.58	302.79	297.74
9	11.71	11.6	—	56.	15.141	—	—	—

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TABLE VIII

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HSD SHROUDED PROPELLER TEST

RHASE I - 18 FT TEST SECTION

TRAVERSING PROBE DATA

RUN NO 341 CONFIGURATION 113CC13CE13CN3PNTT1R1R1P THETA 374 ± 30.0 DEG RPM 7900

H0 ± 14.537 PSIA PINE ± 14.137 PSIA ISC ± 75.42 DEG F RH0 ± 0.00223 SLUGS/ICU FT

M ± 0.12002 V ± 226.49 FPS Q ± 57.007 PSF PSI ± 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	11.71	7.8	—	62.	14.667	—	—	—
3	10.71	5.3	-4.0	66.	15.003	14.21	311.32	309.24
4	9.71	4.7	4.0	68.	14.986	14.19	316.43	314.61
5	8.71	3.0	4.0	69.	14.969	14.18	312.21	310.27
6	5.71	6.5	-2.0	70.	14.874	14.21	286.56	284.55
7	2.71	8.2	—	72.	14.759	—	—	—
8	1.71	9.9	—	74.	14.730	—	—	—
9	0.81	11.7	—	75.	14.663	—	—	—

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 654 CONFIGURATION LIC1E1B3PRT3R1RETP THETA 3/4 = 38.0 DEG RPM 5500

H0 = 14.751 PSIA PINF = 13.869 PSIA TSC = 72.81 DEG F RHO = 0.00222 SLUGS/CU FT

M = 0.3078 V = 345.57 FPS Q = 132.280 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	6.2	0.0	66.	14.781	14.04	303.45	301.69
3	1.71	5.8	-1.0	67.	14.887	14.05	326.57	324.87
4	2.71	4.8	-4.0	68.	14.911	14.03	331.38	329.42
5	5.71	3.8	-1.0	70.	14.967	14.01	345.57	344.78
6	5.71 (4500)*	1.4	-2.0	69.	14.808	14.00	317.33	317.04
7	5.71 (6500)*	5.8	-2.0	73.	15.145	14.04	371.87	369.75
8	8.71	2.4	-2.0	72.	14.993	14.03	345.87	345.35
9	9.71	1.8	-3.0	72.	14.983	14.04	342.48	341.83
10	10.71	2.7	-6.0	72.	14.934	14.09	433.33	430.47
11	11.71	5.9	—	72.	14.560	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 655 CONFIGURATION L1C1E1B3PRT3R1RETP THETA 3/4 = 46.0 DEG RPM 5500

HQ = 14.760 PSIA PINF = 13.223 PSIA TSC = 73.20 DEG F RHD = 0.00214 SLUGS/CU FT

M = 0.4126 V = 460.03 FPS Q = 226.458 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	6.8	3.0	76.	14.786	13.593	390.30	387.01
3	1.71	5.7	1.0	72.	14.918	13.579	411.43	409.36
4	2.71	4.8	-1.0	72.	14.949	13.562	419.34	417.83
5	5.71	3.6	-2.0	73.	15.028	13.544	432.19	431.08
6	5.71 (4500) *	1.2	-2.0	71.	14.858	13.519	412.19	411.85
7	5.71 (6500) *	6.0	-1.0	76.	15.312	13.582	465.19	462.59
8	8.71	2.4	-2.0	73.	15.072	13.548	437.85	437.20
9	9.71	2.4	-2.0	73.	15.081	13.634	426.54	425.91
10	10.71	3.4	-2.0	74.	15.057	13.661	419.03	418.14
11	11.71	6.8	-6.0	74.	14.389	13.614	317.10	313.14

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 656 CONFIGURATION LIC1E1B3PRT3R1RETP THETA 3/4 = 50.0 DEG RPM 5500

H0 = 14.771 PSIA PINF = 12.459 PSIA TSC = 82.05 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5157 V = 574.41 FPS Q = 332.912 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	11.71	6.8	2.0	74.	14.775	12.915	482.45	478.77
3	10.81	5.6	1.0	78.	14.696	12.924	511.52	509.03
4	1.71	4.6	1.0	79.	14.933	12.896	516.56	514.85
5	2.71	3.9	-2.0	80.	14.947	12.863	531.82	530.27
6	5.71 (4500) *	2.8	-2.0	80.	15.030	12.820	514.74	513.82
7	5.71 (4500) *	0.3	0.0	79.	14.840	12.897	556.38	556.37
8	5.71	4.8	-2.0	84.	15.308	12.944	525.78	523.62
9	8.71	1.0	-3.0	80.	15.063	13.019	512.46	511.67
10	9.71	0.3	-2.0	83.	15.047	13.077	504.76	504.45
11	10.71	1.9	—	80.	15.038	—	—	—
12	11.71	3.3	—	83.	14.071	—	—	—

\* DATA ACQUIRED AT INDICATED RPM



TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 658 CONFIGURATION L1C1E1B3PNT1R1RETP										THETA 3/4 = 38.0 DEG		RPM	5500
H0 = 14.831 PSIA PINF = 13.944 PSIA TSC = 68.91 DEG F										RHO = 0.00224 SLUGS/CU FT			
M = 0.3080 V = 344.51 FPS Q = 133.159 PSF PSI = 0. DEG													
PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V FPS	V PRIME FPS				
2	0.81	7.5	1.0	65.	14.900	14.129	307.67	307.67	305.01				
3	1.71	7.3	-2.0	67.	15.027	14.143	329.63	329.63	326.50				
4	2.71	6.0	-1.0	67.	15.037	14.132	333.00	333.00	331.14				
5	5.71	4.3	-1.0	68.	15.080	14.099	346.84	346.84	345.83				
6	5.71	(4500) *	-2.0	67.	14.916	14.081	321.75	321.75	321.47				
7	5.71	(4500) *	6.0	70.	15.251	14.118	372.31	372.31	370.05				
8	8.71	4.4	-1.0	71.	15.272	14.140	371.54	371.54	370.41				
9	8.71	2.7	-1.0	68.	15.072	14.114	343.46	343.46	343.04				
10	9.71	1.8	-2.0	68.	15.035	14.100	331.07	331.07	329.36				
11	10.71	1.8	-6.0	68.	14.978	14.190	311.93	311.93	308.82				
12	11.71	4.3	-	68.	14.600	-	-	-	-				

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 659 CONFIGURATION LIC1E183PNTTIR1RETP THETA 3/4 = 46.0 DEG RPM 5500

H0 = 14.839 PSIA PINF = 13.304 PSIA YSC = 76.72 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4112 V = 460.03 FPS Q = 226.297 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	7.7	3.0	71.	14.863	13.004	389.61	385.56
3	1.71	6.9	1.0	73.	15.040	13.645	416.36	396.65
4	2.71	5.6	0.0	73.	15.079	13.671	420.88	418.87
5	5.71	4.2	-1.0	75.	15.149	13.636	436.40	435.18
6	5.71 (4500) *	1.5	-2.0	73.	14.939	13.580	415.22	414.83
7	5.71 (6500) *	6.0	-2.0	79.	15.385	13.266	372.06	369.80
8	8.71	2.8	-1.0	77.	15.135	13.685	428.12	427.57
9	9.71	2.0	-3.0	76.	15.105	13.712	418.67	417.83
10	10.71	2.4	-6.0	77.	15.084	13.732	413.36	410.72
11	11.71	5.3	—	76.	14.450	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 660 CONFIGURATION LIC1E1B3PNTTIR1RETP THETA 3/4 = 50.0 DEG RPM 5500

H0 = 14.839 PSIA PINF = 12.510 PSIA TSC = 82.96 DEG F RHO = 0.00202 SLUG./CU FT

M = 0.5165 V = 575.74 FPS Q = 335.303 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	6.9	4.0	80.	14.665	12.003	493.10	488.36
3	1.71	5.8	1.0	80.	15.065	13.020	514.74	512.05
4	2.71	4.8	1.0	81.	15.065	12.972	520.93	519.05
5	5.71	3.1	-1.0	81.	15.130	12.938	532.33	531.50
6	5.71 (4500) *	0.5	-1.0	81.	14.924	12.877	517.51	517.44
7	5.71 (6500) *	5.2	2.0	86.	15.363	12.957	557.66	555.03
8	8.71	1.0	-2.0	83.	15.078	12.994	520.75	520.36
9	9.71	0.2	-3.0	82.	15.059	13.066	508.84	508.17
10	10.71	1.5	-6.0	83.	15.028	13.098	501.34	498.41
11	11.71	3.7	—	83.	14.110	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 662 CONFIGURATION L1C1E1B4PNTT1R1RETP THETA 3/4 = 38.0 DEG RPM 5500

H0 = 14.860 PSIA PINF = 13.969 PSIA TSC = 69.04 DEG F RHO = 0.00225 SLUGS/CU FT

M = 0.3084 V = 345.05 FPS Q = 133.786 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	7.7	2.0	68.	14.945	14.175	308.55	305.58
3	1.71	7.7	0.0	69.	15.060	14.197	304.32	301.58
4	2.71	6.9	-2.0	69.	15.051	14.147	333.62	331.01
5	5.71	4.7	-2.0	70.	15.150	14.542	282.05	280.93
6	5.71 (4500) *	1.9	-2.0	68.	14.959	14.119	323.19	322.82
7	5.71 (6500) *	2.5	-2.0	73.	15.285	14.273	351.87	351.33
8	8.71	2.5	-2.0	71.	15.116	14.248	326.37	325.86
9	9.71	2.5	-2.0	70.	15.091	14.177	335.08	334.56
10	10.71	2.5	-6.0	70.	15.036	14.193	322.67	320.59
11	11.71	2.5	—	70.	14.650	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 663 CONFIGURATION LIC1E1B4PNTT1R1RETP THETA 3/4 = 46.0 DEG RPM 5500

H0 = 14.868 PSIA PINF = 13.323 PSIA TSC = 72.29 DEG F RHO = 0.00216 SLUGS/CU FT

M = 0.4121 V = 459.05 FPS Q = 227.565 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	8.2	3.0	74.	14.925	13.008	394.11	389.54
3	1.71	6.6	9.0	74.	15.094	13.094	420.16	412.24
4	2.61	5.3	-1.0	75.	15.100	13.720	417.13	415.30
5	5.61	7.5	0.0	74.	15.195	13.645	437.15	435.28
6	5.61	1.2	-2.0	72.	14.984	13.639	411.43	411.09
7	5.61	5.9	-1.0	76.	15.411	13.715	459.51	459.36
8	8.71	2.2	0.0	74.	15.189	13.707	430.35	430.03
9	9.71	2.2	-3.0	73.	15.169	13.725	425.41	424.50
10	10.71	3.0	-5.0	74.	15.140	13.773	413.36	411.22
11	11.71	5.5	—	73.	14.491	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 664 CONFIGURATION LIC1E1B4PNTTIRIRETP THETA 3/4 = 50.0 DEG RPM 5500

H0 = 14.870 PSIA PINF = 12.545 PSIA TSC = 72.16 DEG F RHQ = 0.00207 SLUGS/CU FT

M = 0.5154 V = 568.81 FPS Q = 334.796 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	8.3	3.0	70.	14.848	12.004	489.64	483.84
3	1.61	5.7	1.0	71.	15.110	13.097	504.75	502.21
4	2.61	4.6	1.0	71.	15.108	13.074	508.14	506.45
5	5.71	4.0	-1.0	71.	15.204	12.977	530.72	529.37
6	5.71 (4500) *	0.2	-2.0	69.	14.954	12.957	504.94	504.63
7	5.71 (6500) *	5.7	-1.0	74.	15.439	12.987	556.06	553.26
8	8.61	0.1	-1.0	72.	15.154	13.099	510.90	510.85
9	9.61	-0.2	-3.0	71.	15.118	13.169	495.76	495.06
10	10.71	1.9	-6.0	72.	15.072	13.134	496.20	493.20
11	11.71	3.1	—	71.	14.147	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 666 CONFIGURATION LIC1E1B3PWTTRIRRETP THETA 3/4 = 30.0 DEG RPM 5500

H0 = 14.897 PSIA PINF = 14.504 PSIA TSC = 61.75 DEG F RHO = 0.00234 SLUGS/CU FT

M = 0.2022 V = 225.88 FPS Q = 59.757 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	6.7	—	60.	14.894	—	—	—
3	1.71	6.7	—	59.	14.903	—	—	—
4	2.71	6.6	-1.0	60.	15.039	14.595	230.21	228.66
5	5.71	5.4	0.0	61.	14.905	14.889	44.74	44.54
6	5.71 (4500) *	3.6	0.0	60.	14.897	14.880	45.82	45.73
7	5.71 (6500) *	6.6	0.0	62.	14.902	14.894	30.23	30.03
8	8.71	5.0	0.0	62.	14.880	14.863	45.91	45.83
9	9.71	3.6	0.0	62.	14.910	14.893	45.91	45.82
10	10.71	4.6	—	62.	14.904	—	—	—
11	11.71	6.6	—	62.	14.902	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

# TABLE VIII

E330590

## HSD SHROUDED PROPELLER TEST PHASE I - 8 FT TEST SECTION TRAVERSING PROBE DATA

RUN NO 667 CONFIGURATION LIC1E1B3PWT1R1RETP THETA 3/4 = 34.0 DEG RPM 5500

H0 = 14.903 PSIA PINF = 14.039 PSIA TSC = 65.14 DEG F RHO = 0.00227 SLUGS/CU FT

M = 0.3030 V = 337.85 FPS Q = 129.786 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	4.4	3.0	63.	14.910	14.609	191.64	190.81
3	1.71	4.4	0.0	63.	14.927	14.594	200.61	200.02
4	2.71	3.6	-2.0	63.	14.954	14.525	227.50	226.92
5	5.71	1.9	-2.0	64.	14.966	14.511	234.44	234.17
6	5.71 (4500) *	-0.9	-2.0	63.	14.905	14.525	241.05	240.88
7	5.71 (6500) *	4.0	-1.0	66.	15.056	14.515	256.25	255.60
8	8.71	1.8	-2.0	65.	15.001	14.509	244.79	244.52
9	9.71	1.8	-2.0	65.	15.015	14.470	257.14	256.86
10	10.71	2.4	-4.0	65.	15.018	14.513	248.16	247.34
11	11.71	5.8	—	65.	14.809	—	—	—

\* DATA ACQUIRED AT INDICATED RPM



TABLE VIII

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 668 CONFIGURATION L1C1E1B3PWTT1R1RETPT THETA 3/4 = 35.0 DEG RPM 5500

MO = 14.908 PSIA PINF = 14.529 PSIA TSC = 63.05 DEG F RHO = 0.00234 SLUGS/CU FT

M = 0.1986 V = 222.12 FPS Q = 57.722 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	9.3	1.00	62.	14.991	14.700	171.31	169.04
3	1.71	8.8	0.00	62.	15.015	14.720	188.11	185.90
4	2.71	8.4	-1.00	62.	15.054	14.699	207.14	204.90
5	5.71	7.4	-2.00	63.	15.096	14.706	309.31	306.55
6	5.71 (4500) *	5.9	-2.00	62.	15.013	14.701	194.83	193.68
7	5.71 (6500) *	7.6	1.00	65.	15.171	14.707	235.81	233.72
8	8.71	5.9	3.00	65.	15.151	14.716	255.96	254.25
9	9.71	5.9	1.00	65.	15.161	14.732	221.21	220.02
10	10.71	6.7	-3.00	65.	15.156	14.763	216.72	214.42
11	11.71	10.8	—	65.	15.026	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

TRAVERSING PROBE DATA

RUN NO 669 CONFIGURATION LIC1E1B3PWT1R1RETP THETA 3/4 = 38.0 DEG RPM 5500

M0 = 14.917 PSIA PINF = 14.040 PSIA TSC = 69.04 DEG F RHO = 0.00226 SLUGS/CU FT

M = 0.3053 V = 341.57 FPS O = 131.722 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	15.0	1.0	65.	14.938	14.634	193.14	186.54
3	1.71	15.0	1.0	65.	14.956	14.636	197.63	190.88
4	2.71	14.7	-2.0	66.	14.971	14.598	212.42	205.34
5	5.71	13.7	-2.0	67.	14.994	14.513	241.88	234.86
6	5.71 (4500) *	11.5	0.0	67.	14.998	14.197	313.88	307.58
7	5.71 (6500) *	15.5	-3.0	70.	15.292	14.245	357.64	344.15
8	8.71	13.0	-1.0	70.	15.189	14.204	347.49	338.55
9	9.71	13.0	-2.0	70.	15.204	14.230	345.23	336.35
10	10.71	13.8	-5.0	70.	15.197	14.355	321.54	311.07
11	11.71	18.5	—	71.	14.857	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

TRAVERSING PROBE DATA

RUN NO 670 CCNEIGURATION LIC1E1B3PWT11R1RETP THETA 3/4 = 42.0 DEG RPM 5500

H0 = 14.897 PSIA PINF = 13.357 PSIA TSC = 78.28 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4111 V = 460.55 FPS Q = 227.035 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PI PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	4.2	1.0	75.	14.904	13.786	380.86	379.80
3	1.71	4.2	-1.0	76.	15.010	13.253	474.26	472.94
4	2.71	3.3	-1.0	76.	15.014	13.700	407.32	406.60
5	5.71	2.0	-2.0	77.	15.075	13.671	421.31	420.80
6	5.71 (4500) *	-0.5	-3.0	76.	14.922	13.648	402.78	402.20
7	5.71 (6500) *	-4.3	-1.0	80.	15.290	13.712	445.27	443.97
8	8.71	-1.8	-1.0	77.	15.138	13.704	425.85	425.60
9	9.71	-1.4	-2.0	78.	15.143	13.740	420.58	420.20
10	10.71	2.7	-5.0	79.	15.132	13.788	411.88	409.86
11	11.71	5.4	—	79.	14.605	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 671 CONFIGURATION LIC1E1B3PW11K1RE1P 0 THEIA 3/4 = 46.0 DEG RPM 5500

H0 = 14.888 PSIA PINF = 13.355 PSIA ISC = 79.84 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4101 V = 460.21 FPS Q = 225.992 PSF PSI = 0. DEG

PT NC	PROBE DISTANCE FROM HUB, IN	THEIA DEG	ZEJA DEG	THEIA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	1.0	4.7	14.912	79.	13.760	382.30	380.98	
3	1.71	0.0	4.4	15.014	79.	13.753	403.92	402.73	
4	2.71	0.0	3.6	15.034	79.	13.720	408.47	407.67	
5	5.71	-2.0	2.7	15.134	80.	13.658	432.74	432.00	
6	5.71 (4500)*	-2.0	0.5	14.969	79.	13.659	408.47	408.21	
7	5.71 (6500)*	0	4.8	15.347	83.	13.675	188.43	187.77	
8	5.71	-2.0	2.8	15.120	81.	13.658	430.88	430.11	
9	8.71	-2.0	2.2	15.205	81.	13.795	421.43	420.87	
10	9.71	—	2.4	15.208	81.	—	—	—	
11	12.71	-6.0	3.7	15.235	81.	13.806	425.18	422.47	
12	11.71	—	7.5	14.566	81.	—	—	—	

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 672 CONFIGURATION LICIE183PW11R1RET P 0 THEIA 3/4 = 46.0 DEG RPM 5500

HO = 14.879 PSIA PINF = 12.562 PSIA TSC = 85.57 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5141 V = 574.58 FPS Q = 333.620 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	3.2	-9.0	83.	14.795	13.002	477.36	470.73
3	1.71	2.5	0.0	85.	14.965	13.073	498.83	498.38
4	2.71	1.7	-1.0	84.	14.932	13.043	498.35	498.10
5	5.71	0.6	-1.0	82.	14.983	12.955	508.84	508.79
6	5.71 (5000) *	-0.3	-1.5	84.	14.904	12.928	509.78	509.47
7	5.71 (5000) *	2.9	-1.0	87.	15.211	12.903	537.57	526.07
8	8.71	-0.8	-1.0	85.	14.979	12.997	510.27	510.17
9	9.71	-0.8	-3.0	85.	14.985	13.067	501.12	500.37
10	10.71	0.7	-5.0	84.	14.979	13.150	483.49	481.61
11	11.71	4.5	—	84.	14.226	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 673 CONFIGURATION LICIEIB3PWIIIRIEIP Q THEIA 3/4 = 50.0 DEG RPM 5500

H0 = 14.880 PSIA PINF = 12.565 PSIA TSC = 88.30 DEG F RHO = 0.00201 SLUGS/CU FT

M = 0.5139 V = 575.82 FPS Q = 333.440 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THEIA DEG	TEMP DEG F	PI PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	4.3	3.0	86.	14.825	13.101	477.51	475.51
3	1.71	3.9	1.0	86.	15.010	13.087	502.70	501.49
4	2.71	3.0	0	87.	15.024	13.057	507.77	507.06
5	5.71	2.7	-1.0	88.	15.088	12.951	538.04	537.39
6	5.71 (4500) *	0.2	-1.0	86.	14.919	12.935	511.86	511.81
7	5.71 (6500) *	4.6	-1.0	91.	15.396	13.033	534.49	552.66
8	12.71	1.8	-2.0	99.	15.185	13.058	531.84	531.26
9	19.71	1.6	-3.0	89.	15.201	13.130	518.99	518.06
10	20.71	2.9	-6.0	90.	15.235	13.200	514.89	511.39
11	11.71	6.9	—	90.	14.274	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 674 CONFIGURATION L1C1E1B3PWT11R1ETP 0 THEIA 3/4 = 50.0 DEG RPM 5500

H0 = 14.874 PSIA PINF = 11.697 PSIA TSC = 102.48 DEG F RHO = 0.00186 SLUGS/CU FT

M = 0.6157 V = 691.30 FPS Q = 445.075 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THEIA DEG	TEMP DEG F	PT		PS	V FPS	V PRIME FPS
					PSIA	PSIA			
2	0.81	3.6	3.0	98.	14.666	12.344	570.75	568.81	
3	1.71	2.4	1.0	99.	14.924	12.353	594.41	593.82	
4	2.71	1.3	-1.0	100.	14.854	12.221	596.09	595.85	
5	5.71	0.	-1.0	99.	14.938	12.164	618.75	618.69	
6	5.71 (5250) *	-0.4	-2.0	100.	14.892	12.179	613.48	613.11	
7	5.71 (6500) *	0.9	-2.0	102.	15.020	12.202	622.72	622.28	
8	8.71	-1.5	-3.0	100.	14.897	12.388	596.19	595.18	
9	9.71	-0.9	-3.0	100.	14.884	12.349	591.55	590.66	
10	10.71	0.2	-6.0	101.	14.884	12.458	578.03	574.85	
11	11.71	3.3	—	100.	13.660	—	—	—	

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 675 CONFIGURATION L1C1E1B3PWT11R1RE1P THEIA 3/4 = 54.0 DEG RCM 5500

HQ = 14.877 PSIA PINF = 13.350 PSIA TSC = 82.57 DEG F RHO = 0.00212 SLUGS/CU FT

M = 0.4096 V = 460.76 FPS Q = 225.274 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZEIA DEG	THEIA DEG	TEMP DEG F	PI PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	8.5	2.0	83.	14.949	13.099	400.84	396.19
3	1.71	6.9	0.0	84.	15.075	13.732	428.63	425.46
4	2.71	6.0	0.0	84.	15.094	13.714	420.62	418.31
5	5.71	5.1	-1.0	84.	15.204	13.699	437.77	435.98
6	5.71 (4500) *	3.4	-2.0	83.	15.093	13.704	421.40	420.39
7	5.71 (6100) *	5.4	0.0	85.	15.249	13.696	443.91	441.96
8	8.71 (6000) *	5.3	-2.0	85.	15.339	13.750	455.35	453.12
9	8.71	5.3	-2.0	85.	15.363	13.725	455.35	453.12
10	9.71	5.6	-2.0	86.	15.376	13.777	451.17	448.74
11	10.71	6.1	-7.0	86.	15.270	13.778	435.14	429.46
12	11.71	4.1	—	88.	14.652	—	—	—

\* DATA ACQUIRED AT INDICATED RPM



TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 676 CONFIGURATION 11C1E1B3PW11R1R1P THEIA 3/4 = 46.0 DEG RPM 5500

MO = 14.877 PSIA PINE = 13.347 PSIA ISC = 80.75 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4099 V = 460.35 FPS Q = 225.608 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THEIA DEG	TEMP DEG F	PI PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	4.1	-8.0	77.	14.852	13.387	432.66	422.85
3	1.71	4.5	-1.0	80.	14.997	13.740	400.86	399.26
4	2.71	3.6	-2.0	80.	15.025	13.708	409.97	407.27
5	5.71	2.9	-2.0	82.	15.136	13.677	431.26	428.80
6	5.71 (4500) *	1.0	-2.0	79.	14.980	13.649	411.88	409.66
7	5.71 (6500) *	5.4	4.0	84.	15.342	13.694	456.06	451.28
8	8.71	3.0	-2.0	84.	15.200	13.684	438.53	435.86
9	9.71	3.0	-2.0	83.	15.241	13.751	433.54	431.85
10	10.71	3.9	-5.0	82.	15.254	13.806	426.70	425.42
11	11.71	8.7	—	82.	14.619	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 677 CONFIGURATION L1C1E1B3PH11RUREIP10 THEIA 3/4 = 42.0 DEG RPM 5500

HQ = 14.890 PSIA PINF = 13.350 PSIA TSC = 80.36 DEG F RHD = 0.00213 SLUGS/CU FT

M = 0.4110 V = 461.37 FPS Q = 226.867 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THEIA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	4.5	2.0	75.	14.854	13.721	379.72	378.32
3	1.71	4.4	1.0	77.	14.992	13.716	403.14	401.93
4	2.71	3.1	1.0	77.	15.008	13.700	406.54	405.89
5	5.71	1.9	-2.0	78.	15.063	13.673	419.44	418.98
6	5.71 (4500) *	9.7	-3.0	78.	14.898	13.656	398.98	392.72
7	5.71 (6500) *	4.2	-2.0	81.	15.261	13.721	443.42	441.96
8	8.71	1.4	-1.0	80.	15.085	13.657	421.36	421.19
9	9.71	1.3	-3.0	81.	15.100	13.732	417.20	416.49
10	10.71	2.2	-5.0	80.	15.109	13.794	407.69	403.14
11	11.71	6.3	—	81.	14.543	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 678 CONFIGURATION L1C1E183PWT1R1RETP10 THEIA 3/4 = 46.0 DEG RPM 5500

H0 = 14.897 PSIA PINF = 13.358 PSIA TSC = 80.75 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4109 V = 461.46 FPS Q = 226.902 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THEIA DEG	TEMP DEG F	PI PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	5.2	2.0	78.	14.878	13.736	381.93	380.14
3	1.71	5.1	0.0	78.	15.034	13.742	403.53	401.92
4	2.71	4.4	-1.0	79.	15.052	13.734	408.47	407.25
5	5.71	3.3	-1.0	80.	15.145	13.706	427.05	426.28
6	5.71 (4500) *	1.1	-1.0	79.	14.994	13.682	408.47	408.35
7	5.71 (4500) *	5.9	-1.0	83.	15.365	13.693	459.08	456.60
8	8.71	3.0	-2.0	82.	15.214	13.693	439.17	438.29
9	9.71	3.0	-2.0	81.	15.239	13.760	432.02	431.16
10	10.71	4.0	-5.0	82.	15.245	13.821	424.41	421.78
11	11.71	8.2	—	82.	14.630	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

HSD SHROUDED PROPELLER TEST  
 PHASE I - 8 FT TEST SECTION  
 TRAVERSING PROBE DATA

RUN NO 679 CCNFIGURATION LIC1E1B3PWTIIRIREPTIO THETA 3/4 = 46.0 DEG RPM 8500

HO = 14.898 PSIA PINF = 12.574 PSIA TSC = 85.05 DEG F RHO = 0.00203 SLUGS/CU FT

M = 0.5147 V = 574.94 FPS Q = 334.704 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	3.7	4.0	84.	14.708	13.000	467.49	465.40
3	1.71	3.0	0.0	85.	14.989	13.094	498.83	498.13
4	2.71	2.0	-1.0	86.	14.975	13.001	509.57	509.21
5	5.71	1.0	-3.0	84.	15.025	12.929	523.49	522.71
6	5.71 (5000) *	9.9	-3.0	82.	14.942	12.921	515.69	507.30
7	5.71 (6500) *	3.2	-2.0	86.	15.260	12.903	543.92	542.72
8	8.71	0.4	-3.0	84.	14.901	13.390	443.48	442.86
9	9.71	9.9	-3.0	82.	14.918	13.204	459.78	452.30
10	10.71	0.9	-2.0	83.	14.901	13.302	444.24	443.93
11	11.71	3.2	—	84.	14.648	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 681 CCNFIGURATION LIC1E1B3PRTIRIRETP THEIA 3/4 = 38.0 DEG RPM 5500

HQ = 14.908 PSIA PINF = 14.017 PSIA ISC = 72.81 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3078 V = 345.55 FPS Q = 133.677 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZEIA DEG	THEIA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	1.71	6.5	1.0	75.	14.907	14.797	116.75	115.99
3	1.71	6.1	—	75.	15.056	—	—	—
4	2.71	5.3	-1.0	76.	14.939	14.729	161.11	160.40
5	5.71	3.8	-1.0	77.	14.948	14.786	166.93	166.55
6	5.71 (4500) *	1.6	-3.0	73.	14.910	14.632	185.55	185.22
7	5.71 (6500) *	5.9	-2.0	76.	15.000	14.589	225.79	224.46
8	8.71	2.3	-2.0	74.	15.020	14.457	263.87	263.50
9	9.71	2.8	-3.0	74.	15.134	14.233	334.09	333.22
10	10.71	2.9	-7.0	73.	15.147	14.254	331.50	328.63
11	11.71	7.5	—	73.	14.780	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 682 CONFIGURATION LIC1E1B3PRT1R1RETP IHEIA 2/4 = 50.0 DEG RPM 5500

H0 = 14.908 PSIA PINF = 13.366 PSIA TSC = 74.24 DEG F RHC = 0.00216 SLUGS/CU FT

M = 0.4112 V = 458.91 FPS Q = 227.286 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THEIA DEG	TEMP DEG F	PI PSIA	PS PSIA	V FPS	V_PRIME FPS
2	0.81	7.8	4.0	74.	14.889	13.782	383.92	379.48
3	1.71	7.4	2.0	74.	15.116	13.767	411.10	407.44
4	2.71	6.5	-1.0	76.	15.175	13.748	423.21	420.46
5	5.71	4.8	-2.0	75.	15.281	13.732	439.80	438.00
6	5.71 (4500) *	2.8	-2.0	73.	15.084	13.672	420.88	420.12
7	5.71 (6100) *	6.6	-1.0	78.	15.435	13.746	458.09	455.02
8	8.71	4.7	-1.0	78.	15.391	13.727	455.82	454.23
9	9.71	4.3	0.0	78.	15.405	13.781	450.13	448.87
10	10.71	5.3	-5.0	79.	15.385	13.658	435.78	432.26
11	11.71	11.0	—	79.	14.737	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

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TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## DAVERSING PROBE DATA

RUA NC 683 CCNFIGURATION L1C1E1B3PRT1R1RETF THEIA 3/4 = 50.0 DEG RPM 5500

H0 = 14.890 PSIA PINF = 12.572 PSIA TSC = 77.37 DEG F RHC = 0.00205 SLUGS/CU FT

M = 0.5140 V = 570.16 FPS Q = 333.765 PSF PSI = 0. DEG

PT NC	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THEIA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	5.4	4.0	78.	14.828	13.098	475.14	471.91
3	1.71	4.8	6.0	78.	15.065	13.092	503.56	499.04
4	2.71	3.9	0.0	78.	15.083	13.082	508.10	506.93
5	5.71	2.8	-1.0	77.	15.181	13.007	528.05	527.36
6	5.71 (4500) *	0.1	-1.0	76.	14.944	12.971	502.63	502.58
7	5.71 (6500) *	5.2	0.0	80.	15.441	13.197	534.12	531.93
8	8.71	2.3	0.0	79.	15.227	13.069	526.80	526.38
9	9.71	1.7	-3.0	78.	15.227	13.182	511.52	510.60
10	10.71	2.3	-5.0	78.	15.205	13.206	504.69	502.37
11	11.71	5.0	—	78.	14.224	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII  
HSD SHROUDED PROPELLER TEST  
PHASE I - 8. FL TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 684 CCNFIGURATION L1C1E1B3PRT1R1RETP THETA 3/4 = 46.0 DEG RPM 5500

HO = 14.897 PSIA PINF = 13.367 PSIA TSC = 84.65 DEG F RHC = 0.00212 SLUGS/CU FT

M = 0.4096 V = 461.64 FPS Q = 225.566 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	6.8	3.0	73.	14.909	13.752	385.81	382.57
3	1.71	5.7	0.0	73.	15.073	13.781	402.78	400.81
4	2.71	4.7	1.0	73.	15.086	13.734	411.83	410.39
5	5.71	3.7	-2.0	73.	15.187	13.703	429.93	428.77
6	5.71 (4500) *	1.3	-2.0	72.	15.009	13.649	413.69	413.32
7	5.71 (6500) *	6.3	-1.0	76.	15.442	13.724	461.78	458.96
8	8.71	2.3	—	79.	15.227	—	—	—
9	9.71	2.8	-3.0	74.	15.244	13.784	426.95	425.84
10	10.71	3.6	-5.0	77.	15.260	13.846	420.17	417.74
11	11.71	8.2	—	85.	14.623	—	—	—
12	8.71	2.7	-2.0	83.	15.225	13.740	433.96	433.22

\* DATA ACQUIRED AT INDICATED RPM



TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 686 CONFIGURATION LIC1E383PWTIRIR1ETP THETA 3/4 = 42.0 DEG RPM 5500

HQ = 14.897 PSIA PINF = 14.004 PSIA TSC = 72.94 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3083 V = 346.17 FPS Q = 134.006 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZEITA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	4.6	0.0	72.	14.924	14.060	327.79	326.74
3	1.71	4.6	-2.0	72.	15.010	14.075	341.35	340.05
4	2.71	3.6	-2.0	72.	15.025	14.060	345.87	344.97
5	5.71	2.8	-2.0	72.	15.085	14.058	357.17	356.53
6	5.71 (4500) *	0.5	-3.0	71.	14.940	14.020	338.79	338.32
7	5.71 (6500) *	4.6	-3.0	75.	15.277	14.093	381.99	380.24
8	8.71	1.2	-3.0	74.	15.144	14.042	370.33	369.74
9	9.71	0.7	-5.0	75.	15.141	14.075	364.99	363.57
10	10.71	-0.6	-5.0	75.	15.128	14.112	355.92	354.57
11	11.71	1.3	-13.0	74.	15.123	14.151	346.55	337.58
12	12.71	7.5	—	75.	14.727	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 687 CONFIGURATION L1C1E3B3PWTTR1RETP THETA 3/4 = 50.0 DEG RPM 5500

HQ = 14.880 PSIA PINE = 13.338 PSIA TSC = 76.72 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4113 V = 460.44 FPS Q = 227.288 PSF PSI = 0. DEG

PI NO.	PROBE DISTANCE FROM HUB, IN	ZEIA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	4.5	2.0	76.	14.864	13.459	425.48	423.91
3	1.71	4.7	-1.0	76.	15.020	13.498	440.22	438.68
4	2.71	3.8	-1.0	77.	15.055	13.474	448.56	447.53
5	3.71	2.7	-3.0	77.	15.151	13.467	462.19	461.04
6	5.71 (4500) *	0.4	-4.0	76.	14.944	13.460	548.01	546.70
7	5.71 (6500) *	4.6	-2.0	82.	15.345	13.485	486.02	484.17
8	8.71	1.2	-3.0	78.	15.176	13.464	466.05	465.30
9	9.71	0.6	-4.0	79.	15.206	13.519	461.95	460.84
10	10.71	0.3	-5.0	78.	15.195	13.586	451.27	449.56
11	11.71	1.4	—	78.	15.182	—	—	—
12	12.71	8.2	—	79.	14.407	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

TRAVERSING PROBE DATA

RUN NO 688 CONFIGURATION L1C1E383PW1J1R1R1P THETA 3/4 = 58.0 DEG RPM 5500

HO = 14.860 PSIA PINE = 12.539 PSIA TSC = 84.26 DEG F RHQ = 0.00202 SLUGS/CU FT

M = 0.5150 V = 574.90 FPS Q = 334.223 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	4.8	2.0	82.	14.733	12.666	524.81	522.66
3	1.71	3.8	1.0	81.	14.909	12.692	540.31	538.64
4	2.71	2.9	0.0	81.	14.909	12.649	546.01	545.30
5	5.71	1.9	-3.0	82.	15.041	12.643	561.32	560.25
6	5.71 (4500) *	1.4	-4.0	82.	14.990	12.642	555.62	554.12
7	5.71 (6300) *	3.3	-3.0	84.	15.201	12.622	580.64	578.84
8	8.71	0.7	-4.0	85.	15.106	12.687	564.04	562.63
9	9.71	0.2	-4.0	84.	15.099	12.762	553.21	551.88
10	11.71	1.7	-6.0	85.	15.091	12.835	548.02	544.79
11	12.71	8.5	—	86.	13.723	—	—	—

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 051 CONFIGURATION L1SCC1SC1SCNT11K1R1P										THETA 3/4 = 42.0 DEG RPM 5500	
HO = 14.753 PSJA PINF = 13.867 PSIA TSC = 66.96 DEG F RHO = 0.00224 SLUGS/CU FT											
M = 0.3086 V = 344.60 FPS Q = 132.591 PSF PSI = 0. DEG											
PT NU	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS			
2	0.81	1.1	3.0	64.	14.820	14.067	305.13	304.64			
3	1.71	9.4	0.0	66.	14.993	14.061	338.29	333.76			
4	5.71	4.0	-1.0	66.	14.924	14.065	339.42	338.57			
5	5.71	7.9	-1.0	70.	15.271	14.088	380.20	376.55			
6	8.71 (4500) *	4.6	-1.0	68.	15.044	17.986	362.60	361.40			
7	9.71 (6500) *	5.5	-3.0	69.	15.035	14.110	356.16	354.99			
8	10.71	3.9	-2.0	69.	14.957	14.136	338.13	337.15			
9	11.71	8.8	-1.0	67.	14.597	13.543	286.88	283.47			
10	12.71	2.4	10.0	65.	14.748	13.939	317.78	312.67			

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 692 CONFIGURATION LISCULSCULSCPTIIRIRKPT THETA 3/4 = 46.0 DEG RPM 5500

H0 = 14.742 PSIA PINF = 13.216 PSIA ISC = 12.94 DEG F RHD = 0.00214 SLUGS/CU FT

M = 0.4114 V = 458.58 FPS Q = 224.972 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	INETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	8.4	2.0	70.	14.792	13.890	391.49	387.07
3	1.71	7.6	0.0	71.	14.956	13.603	413.29	409.65
4	2.71	6.3	0.0	71.	14.963	13.573	418.93	416.42
5	5.71	4.8	-1.0	72.	15.030	13.552	430.64	429.09
6	5.71	1.8	-1.0	72.	14.856	13.513	412.56	412.31
7	5.71	0.6	-1.0	77.	15.255	13.564	461.05	457.96
8	8.71	3.2	-2.0	75.	15.017	13.449	446.60	445.62
9	9.71	2.2	-2.0	74.	14.992	13.496	434.88	434.23
10	10.71	3.3	-3.0	74.	14.968	13.531	426.95	425.63
11	11.71	8.9	-2.0	74.	14.553	13.365	392.98	388.03
12	12.71	1.2	12.0	73.	14.728	13.374	417.49	408.31

\* DATA ACQUIRED AT INDICATED RPM

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 2 FT TEST SECTION

## TRAVELING PROBE DATA

RUN NO 053 CONFIGURATION L1SCCISCISCNTTIRKRT 0 THETA 3/4 = 50.0 DEG RPM 5500

HU = 14.752 PSIA PINF = 12.437 PSIA TSC = 101.44 DEG F RHO = 0.00194 SLUGS/CU FT

M = 0.0143 V = 583.17 FPS Q = 330.610 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PI PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.51	7.7	-2.0	74.	14.776	12.931	490.37	485.42
3	1.71	6.7	-4.0	74.	14.958	12.943	509.63	504.95
4	2.71	5.5	-3.0	76.	14.953	12.885	517.38	514.28
5	5.71	5.7	-1.0	75.	15.017	12.830	531.61	530.44
6	5.71 (4500) *	1.1	-1.0	77.	14.777	12.767	513.29	513.14
7	5.71 (6500) *	5.7	-1.0	78.	15.242	12.726	569.49	566.64
8	8.71	1.9	0.0	78.	14.943	12.747	535.39	535.07
9	9.71	1.4	-1.0	77.	14.892	12.790	523.51	523.35
10	10.71	2.2	-4.0	77.	14.850	12.819	514.43	512.84
11	11.71	8.0	2.0	78.	14.527	12.630	503.56	497.32
12	12.71	1.3	13.0	78.	14.713	12.555	535.39	521.53

\* DATA ACQUIRED AT INDICATED RPM

## HSC SHROUDED PROPELLER TEST

# PHASE I - 8 FT TEST SECTION

## TRAVLER 5 INC PROBE DATA

```

RUN NL 095 CONFIGURATION L1C1E1L3PWT1IKR4TP      THETA 3/4 = 34.0 DEG      RPM    5500

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THO = 14.660 PSIA    PINP = 13.314 PSIA    TSC = 67.74 DEG F    RHO = 0.00217 SLUGS/CU FT

M = 0.3656    V = 428.84 FPS    Q = 199.408 PSF    PSI = 0.    DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	1.1	1.0	60.	14.705	14.025	291.09	290.94
3	1.71	1.2	2.0	67.	14.741	14.036	297.00	296.76
4	2.71	0.5	-1.0	68.	14.755	13.802	345.71	345.68
5	5.71	0.4	0.0	68.	14.800	13.787	356.97	356.97
6	12.71	-0.5	1.0	68.	14.828	13.743	368.23	368.19
7	9.71	-0.8	-1.0	69.	14.818	13.766	364.05	363.98
8	10.71	0.3	0.0	69.	14.800	13.749	364.05	—

TABLE VIII

## HSD SHROUDED PROPELLER TEST

## PHASE I - 3 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 690 CONFIGURATION LIC11133PWT1K1K1K1P THETA 3/4 = 38.0 DEG RPM 5500

HQ = 14.005 PSIA P101 = 13.703 PSIA TSC = 59.56 DEG F RHO = 0.00222 SLUGS/CU FT

M = 0.3089 V = 345.65 FPS Q = 132.376 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	1.31	2.8	1.0	66.	14.734	13.610	341.21	340.77
3	1.71	2.0	0.0	68.	14.774	13.808	347.96	347.61
4	2.71	1.7	0.0	69.	14.814	13.803	358.16	356.02
5	5.71	2.1	0.0	70.	14.895	13.818	367.79	367.53
6	8.71	1.3	0.0	71.	14.938	13.761	383.96	383.85
7	9.71	0.9	-1.0	71.	14.946	13.771	383.96	383.88
8	10.71	2.0	-9.0	72.	14.926	13.761	383.17	378.23



TABLE VIII

## NSL SHROUDED PROPELLER TEST

## PHASE I - 3 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 657 CONFIGURATION LICIEB3PW11PIKE1P THETA 3/4 = 42.0 DEG. RPM 5500

HU = 14.063 PSIA PINF = 15.143 PSIA TSC = 76.72 DEG F RHO = 0.00211 SLUGS/CU FT

M = 0.4112 V = 460.40 FPS Q = 223.930 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	1.71	1.4	1.0	75.	14.796	13.264	432.28	432.11
3	2.71	0.2	0.0	77.	14.775	13.253	444.02	444.02
4	5.71	0.5	-1.0	77.	14.848	13.215	458.78	458.73
5	8.71	-0.1	0.0	78.	14.908	13.178	472.87	472.87
6	9.71	-0.5	-1.0	78.	14.908	13.211	468.32	468.27
7	10.71	0.5	-0.0	78.	14.883	13.188	468.32	463.78

TABLE VIII

## HSL SHROUDED PROPELLER TEST

## PHASE I - 0 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 098 CONFIGURATION L1C1E1E3PHT1K1K1P										THETA 3/4 = 46.0 DEG		RPM 5500	
H0 = 14.004 PSIA		PINF = 13.151 PSIA		TSC = 76.15 DEG F		RHU = 0.00211		SLUGS/CU FT					
M = 0.4105		V = 455.83 FPS		Q = 222.933 PSF		PSI = 0.		DEG					
PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS					
2	0.81	2.5	14.0	77.	14.728	13.245	438.34	437.90					
3	1.71	2.1	0.9	78.	14.809	13.279	445.59	445.28					
4	2.71	0.8	0.0	79.	14.795	13.223	452.84	452.39					
5	5.71	1.0	-1.0	79.	14.903	13.207	468.77	468.54					
6	9.71	0.7	0.0	81.	14.999	13.132	490.16	490.11					
7	10.71	1.0	-9.0	81.	14.963	13.176	482.18	482.08					

## TABLE VIII

## HSL SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 700 CONFIGURATION L11C1E133PW11K1R1E1P THETA 2/4 = 46.0 DEG RPM 5500

HU = 14.673 PSIA PIAF = 12.389 PSIA TSC = 30.48 DEG F RHO = 0.00199 SLUGS/CU FT

M = 0.5140 V = 575.03 FPS Q = 326.579 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V PRIME FPS
2	0.81	0.7	2.0	83.	14.665	12.507	537.88	537.50
3	1.71	0.6	-1.0	84.	14.756	12.485	550.93	550.88
4	2.71	-1.0	-1.0	85.	14.694	12.493	544.59	544.48
5	5.71	-1.0	1.0	85.	14.795	12.400	566.33	566.22
6	8.71	-1.6	1.0	86.	14.800	12.345	575.99	575.70
7	9.71	-2.1	1.0	86.	14.782	12.375	569.11	568.66
8	10.71	-1.4	-6.0	86.	14.759	12.312	575.99	572.65

TABLE VIII

## HSL SURROUNDED PROPELLER TEST

## PHASE I - 3 FT TEST SECTION

## TRAVERSING PROBE DATA

RUN NO 701 CONFIGURATION L1L1F1D5PW1T1R1K1E1P THETA 3/4 = 50.0 DEG RPM 5500

H0 = 14.673 PSIA P1MF = 12.384 PSIA ISC = 86.48 DEG F RHO = 0.00199 SLUGS/CU FT

M = 0.5147 V = 575.71 FPS Q = 329.663 PSF PSI = 0. DEG

PT NO	PROBE DISTANCE FROM HUB, IN	ZETA DEG	THETA DEG	TEMP DEG F	PT PSIA	PS PSIA	V FPS	V. PRIME FPS
2	0.31	-1.9	2.0	84.	14.714	12.479	548.64	548.04
3	1.71	-1.7	2.0	86.	14.844	12.512	558.81	558.25
4	2.71	-1.0	1.0	87.	14.823	12.460	563.93	563.82
5	5.71	-1.3	0.0	88.	14.947	12.395	610.31	610.13
6	8.71	-0.4	0.0	88.	15.039	12.358	598.84	598.84
7	9.71	-0.2	-1.0	88.	15.025	12.398	593.10	593.04
8	10.71	-0.6	-11.0	89.	15.009	12.276	607.40	596.22



## PRESSURE DATA

SHROUD PRESSURE COEFFICIENTS

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
84	279.11	290.18	272.79	273.91	256.11	227.30	239.65	207.10	30.22	17.45	209.38

EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE	14.81	14.87	14.92	14.94	14.95	14.97	14.98	15.00	15.01	15.04	15.07	15.10	15.12
RE													
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.15	15.17	15.20	15.23	15.25	15.26	15.27	15.26	15.12	14.68	14.69	14.63	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 30.0 DEG RPM 7500

RUN - PT NO 143-13 CONFIGURATION L1C1E1B3PWT1R4RETP

HO = 14.692 PSIA PINF = 14.587 PSIA TSC = 45.49 DEG F RHO = 0.00242 SLUGS/CU FT

M = 0.1013 V = 111.68 FPS Q = 15.080 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-2.01	0.83	1.00	0.80	0.60	0.46	0.38	0.29	0.26	0.23	0.18	0.06	0.06
S1B	-2.01	-7.30	-11.17	-12.32	-12.49	-13.41	-12.58	-11.37	-10.37	-8.13	0.03	-0.00	-0.03
S2T	-2.51	0.74	1.00	0.74	0.54	0.48	0.37	0.31	0.28	0.22	0.19	0.11	0.89
S2B	-2.51	-7.37	-11.59	-12.62	-13.03	-13.92	-12.66	-11.52	-10.38	-9.35	-7.95	-7.50	-6.73
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T		0.01	0.01	0.06	0.02	0.05	0.11	0.14	0.17	0.20	0.17	0.11	0.46
S1B		-5.60	-2.30	-1.01	-0.55	-0.20	0.05	0.25	0.17	0.20	0.17	0.11	0.46
S2T		0.77	0.77	0.72	0.72	0.72	0.74	0.77	0.23	0.20	0.23	0.80	0.86
S2B		-5.51	-2.64	-0.95	-0.52	-0.20	-0.00	0.23	0.23	0.20	0.23	0.80	0.86

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R4	328.67	344.14	321.86	324.72	301.62	263.78	283.34	242.77	39.35	0.	245.02

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.84	14.93	15.00	15.04	15.06	15.07	15.09	15.11	15.14	15.18	15.21	15.23	15.27
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.34	15.44	15.49	15.51	15.53	15.53	15.51	15.46	15.28	14.69	14.69	14.64	

TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 25.0 DEG RPM 6500

RUN - PT NO 149-13 CONFIGURATION LIC1E1B3PWT11R4RETP

HO = 14.683 PSIA PINF = 14.654 PSIA TSC = 42.23 DEG F RHO = 0.00244 SLUGS/CU FT

M = 0.0534 V = 58.77 FPS Q = 4.216 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-10.06	0.67	0.89	1.00	1.11	1.00	1.00	0.90	0.80	0.80	0.59	0.49	0.49
S1B	-10.06	-20.51	-25.89	-27.41	-27.31	-28.73	-26.60	-23.96	-21.73	-17.79	-0.03	-0.03	-0.13
S2T	-5.11	-2.58	-0.55	1.00	1.21	1.10	0.90	0.90	0.90	0.69	0.59	0.48	1.21
S2B	-5.11	-16.01	-23.42	-23.86	-28.35	-29.58	-26.82	-24.36	-21.60	-19.56	-17.51	-16.49	-15.77
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T		0.29	0.39	0.29	0.38	0.28	0.28	0.38	0.18	0.07	0.07	-0.03	-0.24
S1B		-14.09	-6.80	-2.39	-1.46	-0.75	-0.23	0.18	0.18	0.07	0.07	-0.03	-0.24
S2T		1.00	0.90	1.00	0.90	0.90	0.90	0.90	0.28	0.28	0.28	0.90	0.90
S2B		-13.58	-7.52	-2.39	-1.36	-0.54	-0.13	0.28	0.28	0.28	0.28	0.90	0.90

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R4	241.67	253.72	235.88	236.51	218.69	192.48	203.06	170.66	34.75	24.58	181.20

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.82	14.87	14.90	14.92	14.94	14.93	14.95	14.97	14.98	15.01	15.02	15.04	15.06
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.07	15.09	15.09	15.10	15.11	15.12	15.13	15.11	15.00	14.69	14.68	14.68	



TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 25.0 DEG RPM 7500

RUN - PT NO 150-14 CONFIGURATION L1C1E1B3PW11R4RETP

H0 = 14.679 PSIA PINF = 14.652 PSIA TSC = 43.53 DEG F RHD = 0.00243 SLUGS/CU FT

M = 0.0507 V = 55.83 FPS Q = 3.795 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-19.07	-6.68	-1.82	0.44	0.77	0.89	1.00	0.89	0.89	0.66	0.77	0.55	0.44
S1B	-19.07	-34.21	-41.83	-44.30	-43.74	-45.65	-42.06	-37.57	-33.98	-27.79	-0.13	-0.02	-0.59
S2T	-22.93	-6.70	-1.85	0.43	1.00	0.89	1.00	0.89	0.77	0.77	0.54	0.54	0.77
S2B	-22.93	-34.56	-42.46	-44.71	-45.79	-47.15	-42.51	-38.45	-33.93	-30.99	-27.14	-25.22	-23.19
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T		0.55	0.32	0.32	0.32	0.20	0.20	0.20	-0.14	-0.02	-0.14	-0.36	-0.02
S1B		-20.53	-8.97	-3.42	-2.51	-1.38	-0.59	0.43	-0.14	-0.02	-0.14	-0.36	-0.02
S2T		0.89	0.77	0.77	0.77	0.77	0.66	0.77	-0.02	-0.14	-0.02	0.77	0.77
S2B		-19.99	-9.78	-3.09	-2.18	-1.16	-0.59	-0.14	-0.02	-0.14	-0.02	0.77	0.77

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R4	286.91	301.21	281.42	282.49	260.26	225.65	241.68	203.95	24.64	17.43	212.57

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	04	05	06	07	08	09	10	11	12	13
RE	14.85	14.92	14.96	14.99	15.00	15.01	15.04	15.06	15.11	15.14	15.17	15.19
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.20	15.22	15.26	15.30	15.31	15.31	15.32	15.30	15.15	14.68	14.68	14.67

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 20.0 DEG RPM 5500

RUN - PT NO 165- 9 CONFIGURATION LICIE1B3PNTT1R1RETP

HQ = 14.821 PSIA PINF = 14.796 PSIA TSC = 44.83 DEG F RHO = 0.00245 SLUGS/CU FT

M = 0.0495 V = 54.59 FPS Q = 3.654 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-9.70	-1.58	0.41	1.00	1.12	1.00	0.88	0.76	0.65	0.41	0.53	0.41	0.30
S1B	-9.70	-19.10	-24.51	-26.27	-26.39	-27.80	-25.68	-23.10	-20.98	-17.03	0.06	-0.18	-0.18
S2T	-10.37	-1.58	0.29	1.12	0.88	0.53	0.76	0.76	0.64	0.64	0.41	0.41	1.00
S2B	-10.37	-19.05	-25.38	-26.90	-27.41	-28.58	-26.00	-23.77	-20.95	-19.07	-16.96	-15.90	-14.96
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T		0.18	0.30	0.18	0.18	0.18	0.18	0.29	0.18	0.18	0.18	0.18	1.00
S1B		-13.38	-7.37	-3.36	-1.95	-1.24	-0.77	0.29	0.18	0.18	0.18	0.18	1.00
S2T		1.00	1.00	1.11	1.11	1.11	1.00	1.00	0.18	0.30	0.30	1.23	1.11
S2B		-12.80	-8.12	-2.98	-1.92	-0.75	-0.29	0.18	0.18	0.30	0.30	1.23	1.11

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	219.78	227.84	213.05	215.80	200.92	198.71	184.18	155.23	179.87	176.55	197.19

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.93	14.99	15.05	15.10	15.13	15.14	15.14	15.15	15.15	15.15	15.16	15.16	15.16
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.16	15.16	15.16	15.15	15.15	15.15	15.14	15.13	15.09	14.82	14.82	14.82	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 30.0 DEG RPM 7500

RUN - PT NO 166- 9 CONFIGURATION L1C1E183PNTTIRIREIP

H0 = 14.819 PSIA PINF = 14.793 PSIA TSC = 48.09 DEG F RHO = 0.00244 SLUGS/CU FT

M = 0.0495 V = 54.77 FPS Q = 3.554 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-30.32	-11.15	-3.95	-0.06	1.00	1.12	1.00	1.00	1.00	0.88	0.88	0.76	0.65
S1B	-30.32	-46.77	-55.62	-58.91	-58.23	-59.93	-55.16	-49.04	-44.27	-35.35	0.05	-0.07	-0.54
S2T	-32.85	-11.04	-4.00	0.76	0.88	2.19	1.00	1.00	1.00	0.88	1.00	0.76	0.88
S2B	-32.85	-47.00	-56.90	-59.73	-60.29	-62.29	-56.04	-50.13	-44.46	-40.33	-35.02	-31.95	-28.88
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	0.53	0.65	0.53	0.29	0.29	0.29	0.29	0.29	-0.18	-0.18	-0.18	-0.30	0.88
S1B	-24.69	-13.80	-6.34	-3.97	-3.97	-2.20	-1.25	0.17	-0.18	-0.18	-0.18	-0.30	0.88
S2T	0.88	0.77	0.77	0.77	0.77	0.77	0.65	0.77	0.06	0.06	0.18	0.77	0.88
S2B	-23.73	-14.55	-6.30	-3.83	-3.83	-2.06	-0.88	-0.06	0.06	0.06	0.18	0.77	0.88

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	318.74	334.70	311.98	317.32	292.31	289.17	269.28	227.11	259.97	254.65	287.52

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	15.00	15.09	15.21	15.34	15.41	15.44	15.45	15.46	15.47	15.48	15.50	15.52	15.54
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.56	15.56	15.57	15.58	15.56	15.52	15.46	15.40	15.23	14.82	14.82	14.82	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 168-9 CONFIGURATION LICIE183PNTTIRIRETP THETA 3/4 = 30.0 DEG RPM 5500  
 H0 = 14.819 PSIA PINF = 14.413 PSIA TSC = 58.63 DEG F RHO = 0.00234 SLUGS/CU FT  
 M = 0.1996 V = 222.25 FPS Q = 57.857 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	01	02	04	06	08	10	12.5	15	17	20	25	30
LEO												
S1T	0.71	-1.32	-1.24	-1.04	-0.88	-0.70	-0.55	-0.48	-0.42	-0.40	-0.43	-0.39
S18	0.71	-0.28	-0.55	-0.73	-1.08	-1.16	-1.05	-0.99	-0.81	-0.06	-0.05	-0.07
S2T	0.75	-1.34	-1.37	-0.95	-0.82	-0.70	-0.58	-0.52	-0.48	-0.42	-0.42	0.30
S28	0.75	-0.27	-0.56	-0.77	-1.08	-1.09	-1.07	-0.90	-0.79	-0.57	-0.59	-0.60
	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.39	-0.36	-0.19	-0.19	-0.13	-0.05	0.07	0.17	0.19	0.18	0.17	0.37
S18	-0.48	-0.34	-0.16	-0.05	0.04	0.10	0.17	0.17	0.19	0.18	0.17	0.37
S2T	-0.46	-0.37	-0.29	-0.21	0.01	0.33	0.41	0.16	0.17	0.18	0.43	0.48
S28	-0.43	-0.35	-0.14	-0.05	0.03	0.10	0.15	0.16	0.17	0.18	0.43	0.48

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	276.35	274.99	260.00	261.18	252.17	250.33	239.84	233.05	223.85	226.60	249.84

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.76	14.85	14.89	14.92	14.95	14.95	14.96	14.98	15.00	15.02	15.03	15.03	15.03
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.03	15.02	15.01	15.01	15.01	14.98	14.95	14.92	14.77	14.62	14.80	14.70	

TABLE IX

HSD SHROUDED PROPELLER TEST  
PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 169- 9 CONFIGURATION L1C1E1B3P4T1R1RETP THETA 3/4 = 30.0 DEG RPM 7500  
 HO = 14.821 PSIA PINF = 14.416 PSIA TSC = 60.45 DEG F RHO = 0.00233 SLUGS/CU FT  
 M = 0.1995 V = 222.63 FPS Q = 57.857 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1F	0.88	-0.06	-0.57	-0.70	-0.63	-0.56	-0.44	-0.34	-0.31	-0.28	-0.25	-0.33	-0.29
S1B	0.88	0.02	-1.49	-1.91	-2.16	-2.64	-2.55	-2.36	-2.19	-1.67	-0.03	-0.04	-0.06
S2F	0.95	-0.07	-0.54	-0.79	-0.65	-0.53	-0.42	-0.38	-0.36	-0.32	-0.29	-0.30	0.43
S2B	0.95	0.09	-1.53	-1.95	-2.21	-2.64	-2.53	-2.41	-2.09	-1.89	-1.50	-1.48	-1.41
S1T		35	40	50	60	70	80	90	92	94	96	98	TEO
S1B		-0.31	-0.28	-0.12	-0.14	-0.09	-0.02	0.09	0.18	0.19	0.20	0.20	0.34
S2T		-1.16	-0.73	-0.34	-0.16	-0.02	0.08	0.18	0.17	0.19	0.21	0.68	0.48
S2B		-0.02	0.03	0.09	0.15	0.14	0.10	0.38	0.17	0.19	0.21	0.68	0.48
		-1.11	-0.76	-0.34	-0.16	-0.02	0.09	0.17	0.17	0.19	0.21	0.68	0.48

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	345.81	353.72	333.62	337.36	319.24	318.75	304.03	280.32	280.45	279.33	315.26

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.85	14.98	15.11	15.19	15.20	15.21	15.23	15.26	15.29	15.31	15.33	15.35	15.35
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.37	15.37	15.37	15.36	15.36	15.34	15.29	15.20	14.99	14.65	14.80	14.70	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 30.0 DEG RPM 5500

RUN - PT NO 171-9 CONFIGURATION LIC1E1B3PRT1R1RETP

P0 = 14.849 PSIA PINF = 14.824 PSIA TSC = 49.39 DEG F RHO = 0.00243 SLUGS/CU FT

M = 0.0495 V = 54.79 FPS Q = 3.654 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-10.54	-2.20	0.17	0.88	1.00	1.00	0.64	0.76	0.76	0.53	0.41	0.41	0.29
S1B	-10.54	-19.84	-25.38	-27.38	-27.15	-28.68	-26.44	-24.08	-22.32	-19.06	0.04	-0.19	-0.19
S2T	-11.22	-2.09	0.17	1.00	1.00	0.76	0.76	0.76	0.76	0.52	0.40	0.40	0.64
S2B	-11.22	-19.77	-26.17	-27.72	-28.15	-29.21	-26.37	-24.24	-21.63	-19.50	-17.36	-16.42	-15.94
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	0.17	0.17	0.17	0.17	0.05	0.17	0.29	0.17	0.17	0.17	0.17	-0.07	0.29
S1B	-14.04	-5.21	-2.70	-1.51	-1.51	-0.91	-0.55	0.41	0.17	0.17	0.17	-0.07	0.29
S2T	0.88	1.00	1.00	0.64	0.64	0.76	0.88	0.64	0.29	0.17	0.05	0.88	1.00
S2B	-13.43	-5.86	-2.19	-1.37	-1.37	-0.66	-0.30	0.17	0.29	0.17	0.05	0.88	1.00

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	224.26	233.12	217.05	218.43	203.44	200.47	185.80	155.62	165.15	162.39	196.58

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.95	14.98	15.01	15.05	15.08	15.10	15.11	15.13	15.14	15.15	15.16	15.17	15.18
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.18	15.19	15.19	15.20	15.20	15.21	15.22	15.20	15.12	14.85	14.85	14.84	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 172- 9 CONFIGURATION LIC1E1B3PT1R1RETP THETA 3/4 = 30.0 DEG RPM 7500

HO = 14.851 PSIA PINF = 14.825 PSIA TSC = 50.69 DEG F RHO = 0.00243 SLUGS/CU FT

M = 0.0495 V = 54.86 FPS Q = 3.654 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12	15	17	20	25	30
S17	-31.96	-12.41	-4.58	-0.31	0.64	1.00	1.00	1.00	1.00	1.00	0.76	0.64	0.64
S18	-31.96	-48.44	-57.27	-61.16	-60.10	-61.63	-57.03	-51.03	-46.68	-38.51	-0.07	0.05	-0.66
S21	-34.83	-11.95	-4.46	-0.46	0.88	1.00	1.00	1.00	1.00	1.00	0.76	0.76	0.88
S28	-34.83	-48.71	-58.68	-61.76	-62.23	-64.13	-57.61	-51.79	-46.22	-41.47	-35.78	-32.93	-29.25
S17		35	40	50	60	70	80	90	92	94	96	98	TEO
S18		0.64	0.29	0.29	0.41	0.29	0.29	0.29	-0.07	0.17	-0.07	-0.66	0.29
S21		-24.63	-9.92	-4.93	-2.92	-1.61	-0.66	0.41	-0.07	0.17	-0.07	-0.66	0.29
S28		0.52	0.76	0.64	0.52	0.40	0.52	0.64	0.17	-0.18	0.05	0.76	0.64
		-24.11	-11.67	-4.21	-3.15	-1.84	-0.78	0.05					

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	325.53	343.11	319.26	323.11	295.77	291.59	272.22	230.07	239.72	235.21	287.56

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	15.01	15.07	15.12	15.19	15.26	15.31	15.35	15.38	15.41	15.44	15.49	15.53	15.56
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.57	15.60	15.64	15.67	15.68	15.69	15.67	15.62	15.44	14.86	14.85	14.85	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 173- 9 CONFIGURATION LIC1E1B3PRT1R1RETP THETA 3/4 = 30.0 DEG RPM 5500

H0 = 14.851 PSIA PINF = 14.445 PSIA TSC = 64.35 DEG F RHO = 0.00232 SLUGS/CU FT

M = 0.1993 V = 223.24 FPS Q = 57.858 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.75	-0.89	-1.29	-1.22	-1.01	-0.86	-0.70	-0.53	-0.48	-0.43	-0.39	-0.42	-0.39
S1B	0.75	0.66	-0.33	-0.61	-0.79	-1.18	-1.16	-1.11	-1.06	-0.89	-0.06	-0.06	-0.08
S2T	0.78	-0.87	-1.28	-1.33	-0.94	-0.77	-0.67	-0.56	-0.50	-0.46	-0.40	-0.39	0.13
S2B	0.78	0.69	-0.35	-0.65	-0.85	-1.18	-1.17	-1.14	-0.98	-0.87	-0.64	-0.65	-0.68
S1T	35	-0.40	-0.36	-0.18	-0.20	-0.12	-0.05	0.07	0.16	0.17	0.19	0.19	0.36
S1B	40	-0.55	-0.31	-0.18	-0.06	0.04	0.10	0.17	0.16	0.17	0.19	0.19	0.36
S2T	50	-0.11	-0.06	-0.03	0.00	0.15	0.26	0.32	0.16	0.17	0.17	0.68	0.34
S2B	60	-0.52	-0.30	-0.16	-0.05	0.03	0.09	0.15	0.16	0.17	0.17	0.68	0.34
S1T	70	-0.18	-0.18	-0.18	-0.20	-0.12	-0.05	0.07	0.16	0.17	0.19	0.19	0.36
S1B	80	-0.40	-0.36	-0.18	-0.06	0.04	0.10	0.17	0.16	0.17	0.17	0.68	0.34
S2T	90	-0.11	-0.06	-0.03	0.00	0.15	0.26	0.32	0.16	0.17	0.17	0.68	0.34
S2B	100	-0.52	-0.30	-0.16	-0.05	0.03	0.09	0.15	0.16	0.17	0.17	0.68	0.34

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	281.62	281.46	265.42	266.60	256.40	257.01	246.59	238.92	231.91	232.59	255.85

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.78	14.84	14.88	14.92	14.95	14.98	15.00	15.02	15.03	15.03	15.04	15.05	15.05
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.05	15.05	15.05	15.05	15.05	15.05	15.06	15.03	14.90	14.65	14.83	14.74	



TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 174- 9 CONFIGURATION LICIEIB3PRTIRIRETP THETA 3/4 = 30.0 DEG RPM 7500

H0 = 14.850 PSIA PINF = 14.445 PSIA TSC = 66.96 DEG F RHO = 0.00231 SLUGS/CU FT

M = 0.1992 V = 223.66 FPS Q = 57.789 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	05	08	10	12.5	15	17	20	25	30
S17	0.87	-0.02	-0.54	-0.71	-0.62	-0.56	-0.46	-0.35	-0.32	-0.29	-0.27	-0.33	-0.31
S18	0.87	-0.07	-1.63	-2.07	-2.34	-2.83	-2.73	-2.54	-2.38	-1.87	-0.05	-0.06	-0.07
S27	0.94	-0.01	-0.51	-0.76	-0.63	-0.52	-0.42	-0.38	-0.35	-0.33	-0.28	-0.29	0.23
S28	0.94	-0.00	-1.68	-2.13	-2.42	-2.88	-2.75	-2.60	-2.28	-2.07	-1.62	-1.62	-1.56
		35	40	50	60	70	80	90	92	94	96	98	TEO
S17		-0.33	-0.29	-0.13	-0.16	-0.09	-0.02	0.08	0.17	0.17	0.18	0.17	0.30
S18		-1.26	-0.63	-0.31	-0.11	0.01	0.09	0.19	0.17	0.17	0.19	0.45	0.49
S27		-0.04	-0.00	0.01	0.04	0.01	0.32	0.40	0.17	0.18	0.19	0.45	0.49
S28		-1.21	-0.69	-0.28	-0.13	0.00	0.09	0.16	0.17	0.18	0.19	0.45	0.49

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	355.66	365.29	344.10	347.35	328.33	327.36	312.66	287.68	290.06	287.85	324.63

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.80	14.89	14.99	15.07	15.13	15.17	15.20	15.23	15.27	15.29	15.33	15.35	15.36
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.38	15.39	15.40	15.42	15.44	15.47	15.48	15.45	15.22	14.68	14.83	14.74	

TABLE 1

HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 316-9 CONFIGURATION LIC1E1B3PWJ1T1R1R1E1I1O1P THETA 3/4 = 35.0 DEG RPM 5500

MO = 14.897 PSIA PINE = 14.868 PSIA JSC = 57.20 DEG F RHO = 0.00241 SLUGS/CU FT

N = 0.0530 V = 59.21 FPS Q = 4.216 PSF PSI = 0. DEG

SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12	15	17	20	25	30
S17	-9.69	-11.96	0.00	0.80	0.80	0.80	0.79	0.79	0.90	0.79	0.69	0.59	0.59
S18	-9.69	-17.60	-25.02	-27.98	-25.21	-27.27	-25.21	-23.77	-21.51	-19.35	0.07	0.18	0.49
S27	-10.92	-1.98	0.07	1.00	1.00	0.90	0.79	0.69	0.79	0.69	0.48	0.48	0.90
S28	-10.92	-18.77	-24.79	-26.42	-26.94	-27.15	-25.10	-22.75	-21.31	-19.68	-17.12	-5.55	-14.76
S17	35	0159	0.38	0.49	0.07	0.28	0.28	0.28	0.28	0.38	0.38	0.07	0.38
S18	13.90	-4.96	-2.60	-2.60	-1.57	-0.85	1.41	0.49	0.28	0.38	0.38	0.07	0.38
S27	1.00	0.98	0.80	0.80	0.80	0.80	0.90	0.80	0.49	0.38	0.28	1.00	0.80
S28	-12.24	-4.65	-1.87	-1.87	-1.46	-0.75	-0.23	0.18	0.49	0.38	0.28	1.00	0.80

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	224.23	242.17	231.19	231.85	216.91	215.50	206.12	203.90	198.68	194.83	216.54

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	15.01	14.87	15.09	15.12	15.14	15.16	15.18	15.21	15.24	15.26	15.27	15.28	15.29
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.29	15.30	15.31	15.32	15.34	15.35	15.35	15.33	15.25	14.90	14.90	14.90	

TABLE IX

HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

PRESSURE DATA

RUN - PJ NO 317-9 CONFIGURATION L1C1E1B3PW1R1R1E1I1O1T1P THETA 3/4 = 35.0 DEG RPM 7500

H0 = 14.889 PSIA PINE = 14.855 PSIA TSC = 58.63 DEG F RHO = 0.00240 SLUGS/CU FT

M = 0.0569 W = 33.60 FPS Q = 4.848 PSF PSI = 0. DEG

SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12	15	17	20	25	30
S17	-22.90	-4.21	-0.90	0.72	1.09	1.00	1.00	0.91	0.91	0.91	0.91	0.73	0.73
S18	-22.90	-34.98	-44.47	-49.21	-45.81	-46.79	-42.14	-37.22	-31.13	-26.24	0.55	0.46	1.54
S27	-20.89	-8.67	-3.24	-0.08	0.82	1.00	1.00	0.91	1.00	0.91	0.82	0.73	1.00
S28	-20.89	-33.02	-41.65	-44.38	-48.28	-48.63	-44.71	-40.17	-36.87	-33.04	-31.26	-14.86	-20.03

	31	40	50	60	70	80	90	92	94	96	98	TEO
S17	0.73	0.73	0.46	0.37	0.37	0.28	0.28	0.28	0.28	0.20	-0.16	0.37
S18	-22.28	-6.82	-2.68	-2.15	-1.07	2.71	0.37	0.11	0.28	0.20	-0.16	0.37
S27	1.00	0.91	1.00	1.00	0.82	0.91	1.00	0.55	0.37	0.46	1.00	0.91
S28	-17.53	-6.34	-1.86	-1.86	-1.24	-0.43	0.37	0.55	0.37	0.46	1.00	0.91

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	329.54	348.26	331.70	333.58	309.83	306.29	291.78	289.65	284.80	276.49	310.19

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	15.12	15.19	15.27	15.33	15.37	15.38	15.42	15.45	15.49	15.53	15.56	15.59	15.62
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.64	15.68	15.73	15.79	15.84	15.86	15.85	15.81	15.67	14.89	14.89	14.90	

TABLE 1

HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 318-9 CONFIGURATION L1C1E1B3PWT1R1RE110TP THETA 3/4 = 35.0 DEG RPM 5500

MO = 14.879 PSIA PINE = 14.450 PSIA JSC = 76.07 DEG F RHO = 0.00227 SLUGS/CU FT

M = 0.2050 V = 232.12 FPS Q = 61.234 PSF PSI = 0. DEG

SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12	15	17	20	25	30
S1T	0.87	-0.147	-0.090	-0.093	-0.081	-0.073	-0.058	-0.42	-0.36	-0.32	-0.29	-0.36	-0.27
S1B	0.87	0.153	-0.055	-0.087	-0.08	-0.157	-0.155	-1.58	-1.37	-1.02	0.01	0.01	0.19
S2T	0.90	-0.137	-0.082	-0.097	-0.079	-0.060	-0.050	-0.40	-0.36	-0.33	-0.28	-0.28	0.33
S2B	0.90	0.152	-0.064	-0.097	-0.121	-0.145	-0.148	-1.38	-1.32	-1.22	-1.14	-0.33	-0.90
		35	40	50	60	70	80	90	92	94	96	98	TE0
S1T		-0.129	-0.24	-0.14	-0.12	-0.05	0.03	0.13	0.21	0.23	0.25	0.24	0.28
S1B		-0.178	-0.34	-0.13	0.01	0.11	0.27	0.22	0.21	0.23	0.25	0.24	0.28
S2T		0.102	0.03	0.03	0.04	0.30	0.35	0.37	0.20	0.21	0.22	0.75	0.65
S2B		-0.169	-0.130	-0.12	-0.02	0.08	0.15	0.18	0.20	0.21	0.22	0.75	0.65

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	301.52	313.65	301.09	300.55	289.12	288.56	282.96	284.09	284.06	279.52	292.51

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.88	14.91	14.95	14.99	15.02	15.02	15.03	15.06	15.07	15.09	15.11	15.12	15.14
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RB	15.15	15.16	15.17	15.18	15.18	15.18	15.18	15.17	15.15	15.07	14.67	14.86	

TABLE I

HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

PRESSURE DATA

RUN - PJ NO 319-9 CONFIGURATION LIC1E1B3PWITR1RE110TP THETA 3/4 = 35.0 DEG RPM 7500

HO = 14.879 PSIA PINF = 14.450 PSIA TSC = 81.27 DEG F RHO = 0.00225 SLUGS/ACU FT

M = 0.2049 V = 233.11 FPS Q = 61.165 PSF PSI = 0. DEG

SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.90	0.27	-0.24	-0.44	-0.42	-0.36	-0.32	-0.22	-0.19	-0.17	-0.16	-0.29	-0.20
S1B	0.90	-0.28	-1.91	-2.39	-2.68	-3.31	-3.11	-2.92	-2.34	-1.50	0.02	0.02	0.26
S2T	0.93	0.35	-0.14	-0.46	-0.40	-0.32	-0.26	-0.23	-0.20	-0.19	-0.15	-0.24	0.46
S2B	0.93	-0.30	-2.11	-2.61	-2.95	-3.27	-3.20	-2.95	-2.76	-2.55	-2.39	-0.97	-1.50
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T		-0.21	-0.17	-0.09	-0.07	-0.02	0.05	0.15	0.22	0.25	0.24	0.23	0.30
S1B		-1.80	-0.53	-0.18	-0.01	0.09	0.39	0.24	0.22	0.25	0.24	0.23	0.30
S2T		-0.00	-0.07	0.07	0.32	0.34	0.37	0.58	0.24	0.24	0.26	0.79	0.71
S2B		-1.33	-0.58	-0.21	-0.11	0.06	0.18	0.23	0.24	0.24	0.26	0.79	0.71

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	385.95	404.15	388.30	390.85	371.78	368.66	358.36	358.86	357.01	350.01	373.39

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	15J00	15.07	15.13	15.18	15.22	15.23	15.26	15.30	15.35	15.39	15.44	15.46	15.48
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15J53	15.60	15.66	15.70	15.68	15.66	15.64	15.59	15.46	14.71	14.85	14.86	

## SHROUDED PROPELLER TEST

RHA5E I - 18 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 320-9 CONFIGURATION L1C1E1B3PMTTIRREI'101R YNEJA 3/4 = 35.0 DEG RPM 5500

HO = 14.888 PSIA RINE = 14.551 PSIA ISC = 79.97 DEG F RHO = 0.00226 SLUGS/CU FT

M = 0.2069 V = 235.02 FRS Q = 62.336 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.82	-0.161	-1.03	-1.00	-0.87	-0.76	-0.60	-0.43	-0.37	-0.32	-0.28	-0.36	-0.27
S1B	0.82	0.164	-0.131	-0.157	-0.174	-1.17	-1.15	+1.15	-0.93	-0.59	0.02	0.02	0.22
S2T	0.86	-0.131	-0.95	-1.07	-0.86	-0.64	-0.54	-0.44	-0.38	-0.34	-0.29	-0.28	0.62
S2B	0.86	0.163	-0.40	-0.69	-0.90	-1.12	-1.16	-1.08	-1.03	-0.95	-0.91	-0.30	-0.65
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T		-0.126	-0.123	-0.113	-0.110	-0.04	0.03	0.13	0.22	0.23	0.22	0.23	0.27
S1B		-0.157	-0.119	-0.094	0.105	0.13	0.17	0.24	0.22	0.23	0.22	0.23	0.27
S2T		0.101	0.099	0.115	0.119	0.20	0.22	0.45	0.23	0.24	0.24	0.69	0.52
S2B		-0.154	-0.117	-0.104	0.104	0.13	0.19	0.23	0.23	0.24	0.24	0.69	0.52

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	291.72	294.64	280.10	279.52	268.93	266.53	261.04	260.27	257.71	255.83	271.63

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.85	14.90	14.94	14.97	14.99	14.99	14.99	15.00	15.00	15.02	15.04	15.06	15.08
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.11	15.13	15.13	15.16	15.17	15.18	15.17	15.14	15.03	14.67	14.87	14.87	

TABLE 1

HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

PRESSURE DATA

RUN - PI NO 321-9 CONFIGURATION L1C1E1B3PWTLIR1REI-10IP THETA 3/4 = 35.0 DEG RPM 7500  
 MO = 14.879 PSIA PINE = 14.444 PSIA ISC = 82.57 DEG F RHD = 0.00225 SLUGS/CU FT  
 M = 0.2063 V = 234.99 FPS Q = 61.991 PSF PSI = 0. DEG

SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.92	0.18	-0.32	-0.51	-0.46	-0.41	-0.35	-0.23	-0.20	-0.18	-0.17	-0.29	-0.18
S1B	0.92	-0.10	-1.50	-2.01	-2.27	-2.81	-2.61	-2.45	-1.95	-1.25	0.03	0.02	0.26
S2T	0.93	0.26	-0.22	-0.51	-0.44	-0.36	-0.28	-0.25	-0.21	-0.14	-0.17	-0.23	0.37
S2B	0.93	-0.16	-1.84	-2.30	-2.58	-2.90	-2.84	-2.60	-2.46	-2.26	-2.13	-0.80	-1.42
S1T	35	40	40	50	60	70	80	90	92	94	96	98	TEO
S1B	-0.20	-0.17	-0.42	-0.09	-0.07	-0.02	0.05	0.14	0.21	0.23	0.23	0.21	0.29
S2T	-2.52	0.13	0.13	0.15	0.15	0.18	0.24	0.26	0.30	0.28	0.27	0.76	0.65
S2B	0.10	-0.42	-0.42	-0.11	0.00	0.14	0.23	0.27	0.30	0.28	0.27	0.76	0.65

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	369.01	382.89	368.80	368.80	349.56	345.78	333.26	333.06	325.03	320.96	349.71

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.88	14.57	15.06	15.12	15.16	15.18	15.21	15.24	15.26	15.28	15.33	15.38	15.44
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.51	15.50	15.64	15.65	15.67	15.68	15.68	15.64	15.48	14.71	14.86	14.86	

## HSD SHROUDED PROPELLER TEST

RUNWAY I - 18 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 35.0 DEG RPN 5500

323- 9 CONFIGURATION WIC1E1B3PR13R1RETP

HO = 14.908 PSIA PINE = 14.874 PSIA TSC = 57.20 DEG F RHO = 0.00241 SLUGS/CU FT

N = 0.0573 V = 63.93 FPS Q = 4.918 PSF PSI = 0. DEG

### STANDARD PRESSURE COEFFICIENTS

	LEO	OF	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-7.91	1.00	1.10	1.10	1.10	1.00	0.91	0.82	0.82	0.82	0.65	0.47	0.47
S1B	-7.91	-1.161	-20.16	-22.90	-21.31	-22.02	-20.25	-18.84	-16.55	-2.36	0.47	0.47	0.91
S2T	0.52	-1.138	0.38	1.00	1.00	0.91	0.91	0.82	0.82	0.82	0.73	0.55	1.00
S2B	0.52	-10.46	-14.51	-16.72	-16.46	-22.16	-20.32	-18.39	-16.90	-15.48	+13.91	-2.95	-11.28

### INLET VELOCITIES, FPS

ORIF:ICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	210.40	234.49	222.47	225.19	211.24	209.79	200.15	198.85	193.42	189.45	209.55

EXIT RAKE PRESSURE: RS1A

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	15.05	15.07	15.10	15.13	15.17	15.19	15.22	15.23	15.25	15.27	15.29	15.31	15.31
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.30	15.29	15.30	15.31	15.30	15.28	15.25	15.23	15.17	14.91	14.91	14.91	



PHASE I - 18 FT TEST SECTION

### PRESSURE DATA

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RUN - PT NO 3241 9 CONFIGURATION L1C1E1B3PRT3R1RGTP
      THETA 3/4 = 35.0 DEG RPM 7500

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$\rho_H = 14.916 \text{ PSIA}$      $\rho_{INF} = 14.885 \text{ PSIA}$      $TSC = 58.63 \text{ DEG F}$      $\rho_H = 0.00240 \text{ SLUGS/CU FT}$

N = 040552	M = 761.67	EPS	Q = 41.567	PSI = 0.	DEF

### SERVOID PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	+24.54	-41.00	-0.98	0.48	0.79	0.90	1.00	1.00	1.00	0.91	0.81	0.72	0.81
S1B	-24.54	-36.88	-46.27	-51.40	-47.32	-48.27	-43.43	-38.58	-32.79	-27.95	0.24	0.24	1.00
S2T	-24.52	-0.36	-3.32	0.04	0.90	0.90	1.00	1.00	1.00	1.00	0.81	0.81	1.00
S2B	-24.52	-36.08	-43.79	-45.07	-29.79	-49.14	-45.18	-40.17	-37.06	-32.81	-29.69	-8.16	-19.68

### INLET VELOCITIES, FPS

[illegible]

## EXIT RAKE PRESSURES, RSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE	15.14	15.16	15.23	15.29	15.37	15.42	15.50	15.55	15.58	15.63	15.67	15.70	15.71
RE													
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.469	15.66	15.66	15.69	15.72	15.73	15.71	15.67	15.56	14.92	14.92	14.92	

PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 325-29 CONFIGURATION LIC1E1B3PRT3R1RETP

THETA 3/4 = 35.0 DEG RPM 5500

$\rho_0 = 14.989 \text{ PSIA}$      $\rho_{1NF} = 24.474 \text{ PSIA}$      $TSC = 75.55 \text{ DEG F}$      $\rho_{H2O} = 0.00228 \text{ SLUGS/CU FT}$

M = 0.02013    V = 227.77 FPS    Q = 59.100 PSF    PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	1215	15	17	20	25	30
S1T	-0.44	-0.85	-0.80	-0.61	-0.51	-0.67	-0.49	-0.43	-0.39	-0.35	-0.42	-0.33
S1B	0.59	-0.45	-0.74	-0.94	-1.41	-1.38	-1.36	-1.12	-0.75	-0.03	-0.03	0.15
S2T	-0.53	-1.00	-1.13	-0.93	-0.72	-0.60	-0.49	-0.43	-0.40	-0.35	-0.35	0.39
S2B	0.66	-0.31	-0.62	-0.99	-1.30	-1.34	-1.25	-1.18	-1.14	-1.00	-0.34	-0.74

## INLET VELOCITIES, FPS

ORIF:IOE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	289.81	298.16	282.76	282.76	272.95	272.95	266.44	269.42	264.59	263.49	276.34

**EXIT. RAKE PRESSURES, PSI A**

ORIFICE RE	01	02	03	04	05	06	07	08	09	10	11	12	13
	14.84	14.90	14.96	15.00	15.01	15.02	15.04	15.07	15.09	15.11	15.13	15.14	15.15
ORIFICE RE	14	15	16	17	18	19	20	21	22	23	24	25	
	15.15	15.16	15.15	15.17	15.17	15.17	15.14	15.10	14.95	14.88	14.86	14.86	

TABLE IX

HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

PRESSURE DATA

RUN - PJ NO 326-9 CONFIGURATION LIGIB3PRT3R1RETP THEIA 3/4 = 35.0 DEG RPM 7500

MO = 14.887 PSIA PINE = 14.468 PSIA USC = 79.06 DEG F RHO = 0.00226 SLUGS/CU FT

M = 0.2025 V = 229.88 FPS Q = 59.786 PSF PSI = 0. DEG

SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12	15	17	20	25	30
S1T	0.192	0.150	0.14	-0.06	-0.03	-0.03	-0.38	-0.27	-0.23	-0.21	-0.20	-0.132	-0.22
S1B	0.192	-0.125	-1.187	-2.40	-2.71	-3.23	-3.03	-2.81	-2.11	-1.44	-0.00	-0.102	0.19
S2T	0.197	0.129	-0.21	-0.154	-0.46	-0.39	-0.32	-0.28	-0.25	-0.24	-0.20	-0.26	0.56
S2B	0.197	0.123	-2.02	-2.40	-1.44	-3.19	-3.12	-2.86	-2.30	-2.48	-2.17	-0.172	-1.49
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.124	-0.21	-0.11	-0.11	-0.11	-0.06	0.03	0.12	0.21	0.22	0.22	0.21	0.28
S1B	-1.133	-0.87	-0.135	-0.135	-0.12	0.06	0.14	0.23	0.21	0.22	0.22	0.21	0.28
S2T	-0.136	-0.25	-0.125	-0.125	-0.18	0.06	0.138	0.45	0.23	0.22	0.25	0.77	0.51
S2B	-1.118	-0.85	-0.131	-0.131	-0.11	0.02	0.11	0.22	0.23	0.22	0.25	0.77	0.51

INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
ORIFICE RI	362.68	389.44	373.86	377.38	359.05	355.37	345.13	345.53	339.28	333.44	358.12

EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE RE	14.91	14.08	15.04	15.13	15.20	15.25	15.30	15.35	15.38	15.41	15.47	15.52	15.57
	14	15	16	17	18	19	20	21	22	23	24	25	
ORIFICE RE	15.60	15.65	15.68	15.69	15.69	15.64	15.55	15.52	15.33	14.72	14.87	14.87	



TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 18 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 30.0 DEG RPM 5500

RUN - PJ NO 328-9 CONFIGURATION LGIE3B3PWTTL1RET

HO = 14.874 PSIA PINE = 14.840 PSIA JSC = 61.10 DEG F RHO = 0.00230 SLUGS/CU FT

M = 0.0573 V = 64.25 FPS Q = 4.918 PS6 PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEE	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-10.34	-11.72	0.16	0.81	1.00	1.00	1.00	0.82	0.91	0.82	0.74	0.74	0.74
S1B	-10.34	-18.20	-24.57	-27.54	-25.88	-26.66	-24.31	-22.56	-19.51	1.00	0.12	0.20	-0.15
S2T	-9.30	-21.61	-0.24	0.73	1.00	0.91	0.82	0.82	0.56	0.73	0.73	0.73	0.64
S2B	-9.30	-14.83	-20.35	-23.16	-22.08	-26.47	-24.45	-22.17	-20.59	-18.92	-17.60	-15.06	-14.88
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T		0.56	0.47	0.56	0.47	0.38	0.38	0.38					
S1B		-14.47	-9.34	-7.84	-5.36	-3.33	-2.09	-0.67	-0.58	-0.32	-0.05	0.03	0.47
S2T		0.47	0.28	0.28	0.28	0.20	0.11	0.20	-0.50	-0.41	-0.06	0.20	0.29
S2B		-13.28	-9.49	-8.13	-5.43	-3.23	-1.91	-0.76					

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	240.89	250.95	245.94	245.94	229.80	230.47	213.23	211.56	204.19	201.16	220.31

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.93	14.97	15.00	15.02	15.03	15.04	15.06	15.07	15.08	15.09	15.11	15.12	15.13
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.14	15.15	15.15	15.17	15.18	15.18	15.19	15.19	15.19	15.19	15.13	14.93	

TABLE IX

HSD SHROUDED PROPELLER TEST  
PHASE I - 18 FT TEST SECTION

PRESSURE DATA

RUN - PJ NO		320-9	CONFIGURATION		UICIE383PWTTRIRETP		THETA 3/4 = 30.0 DEG		RPM 7500				
HO ± 14.869 PSIA		PINF ± 14.839 PSIA	ISC = 61.75 DEG F	RHO ± 0.00238 SLUGS/CU FT									
M = 0.0535		V = 60.02 FPS	Q = 4.286 PSF	PSI = 0. DEG									
		SHROUD PRESSURE COEFFICIENTS											
		01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-32.94	-13.62	-51.61	-11.10	-62.50	0.80	1.00	1.00	1.00	1.00	1.00	0.90	0.90
S1B	-32.94	-40.30	-61.25	-67.57	-62.56	-63.86	-57.53	-51.71	-43.48	-0.22	0.19	-0.02	-2.55
S2T	-37.35	-14.14	-5.84	-0.94	-0.49	0.90	0.90	1.00	1.00	0.90	0.90	0.80	0.69
S2B	-37.35	-50.15	-60.88	-64.08	-52.33	-65.03	-59.79	-53.64	-49.61	-44.26	-41.14	-33.58	-32.17
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	0.60	0.80	0.80	0.29	0.29	0.29	0.29	0.29	-2.03	-1.62	-0.92	-0.62	0.29
S1B	-32.68	-21.93	-17.88	-12.01	-7.73	-7.73	-5.39	-2.43	-2.03	-1.62	-0.92	-0.62	0.29
S2T	0.69	0.49	0.39	0.29	0.18	0.18	0.08	-0.02	-2.14	-1.63	-1.13	-0.43	0.18
S2B	-29.17	-22.89	-19.45	-13.27	-8.11	-8.11	-5.07	-2.54	-2.14	-1.63	-1.13	-0.43	0.18

INLET VELOCITIES, FPS

ORIFICE		01	03	04	06	07	09	10	12	13	15	V AVE	
R1		81.00	191.39	395.92	375.60	341.94	334.47	310.18	306.65	295.68	286.54	291.94	

EXIT RAKE PRESSURES, PSIA

ORIFICE		01	02	03	04	05	06	07	08	09	10	11	12	13
RE		14.95	15.03	15.10	15.15	15.17	15.19	15.21	15.24	15.27	15.29	15.33	15.35	15.38
ORIFICE		14	15	16	17	18	19	20	21	22	23	24	25	
RE		15.41	15.43	15.46	15.50	15.52	15.52	15.53	15.54	15.53	15.50	15.40	15.01	

TABLE

HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

PRESSURE DATA

RUN - PI NO 331-4 CONFIGURATION LICIE3B3PWTIRIRETP THEIA 2/4 = 30.0 DEG RPM 5500

HO = 14.848 PSIA PINE = 14.538 PSIA TSC = 66.44 DEG F RHO = 0.00231 SLUGS/CU FT

M = 0.2005 V = 224.92 FPS Q = 58.478 PSF PSI = 0. DEG

SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12	15	17	20	25	30
S1T	0.87	-0.25	+0.75	-0.83	-0.72	-0.60	-0.50	-0.36	-0.31	-0.22	-0.22	-0.23	-0.23
S1B	0.87	0.34	-0.90	-1.24	-1.46	-1.95	-1.88	-1.80	-1.43	1.00	-0.05	-0.05	-0.08
S2T	0.92	-0.28	-0.75	-0.93	-0.77	-0.57	-0.46	-0.38	-0.34	-0.31	-0.25	-0.15	-0.03
S2B	0.92	0.39	-0.94	-1.27	-1.17	-1.79	-1.82	-1.70	-1.61	-1.52	-1.38	-1.04	-1.12

	35	40	50	60	70	80	90	92	94	96	98	1E0
S1T	-0.25	-0.19	-0.18	-0.12	-0.07	-0.03	0.05	0.05	0.08	0.11	0.14	0.18
S1B	-1.08	-0.98	-1.03	-0.66	-0.32	-0.16	0.02	0.05	0.07	0.09	0.21	0.29
S2T	-0.28	-0.02	0.11	0.13	0.15	0.20	0.24	0.02	0.07	0.09	0.21	0.29
S2B	-1.00	-0.99	-1.11	-0.67	-0.35	-0.16	0.01	0.02	0.07	0.09	0.21	0.29

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	321.00	323.96	305.42	305.38	251.10	291.10	282.03	286.52	281.52	280.96	297.08

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.72	14.77	14.81	14.87	14.90	14.91	14.93	14.94	14.95	14.96	14.97	14.97	14.97
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.97	14.97	14.97	14.97	14.97	14.97	14.96	14.95	14.95	14.94	14.83	14.60	

PHASE I - 18 FT. TEST SECTION

## PRESSURE DATA

RUN	- PT NO	CONFIGURATION	LIC1E3B3P	WTT1RIRÉTP	THETA 374 ± 30.0 DEG	RPM 7500
	332-9					

PT NO	332-9	CONFIGURATION	LIC1E3B3PWTIRIRÉTP	THETA 374 = 30.0
HO = 14.831	PSIA	PINE = 14.421	PSIA	TSC = 661.96 DEG F
				RHO = 0.60231 SLUGS/CU FT

M = 0.42007 V ± 225.29 FPS Q ± 58.546 PSF PSI = 0. DEG

### SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.78	-0.06	-0.30	-0.33	-0.27	-0.23	-0.15	-0.14	-0.08	-0.10	-0.12	-0.14
S1B	0.78	-2.48	-3.04	-3.42	-4.00	-3.74	-3.53	-2.05	0.85	-0.05	-0.05	-0.04
S2T	0.86	-0.05	-0.39	-0.35	-0.29	-0.23	-0.19	-0.17	-0.15	-0.11	-0.02	0.22
S2B	0.86	-2.57	-3.11	-1.95	-3.77	-3.69	-3.39	-3.22	-2.97	-2.71	-2.15	-2.19

### INLET VELOCITIES, FPS

	ORIFICE	01	03	04	06	07	09	10	12	13	% AVE											
R1	390	61	410	600	391	32	391	32	370	12	368	80	354	16	356	49	349	56	345	39	372	78

## EXIT RAKE PRESSURES, PSI A

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE	14.73	14.81	14.86	14.93	14.98	15.02	15.05	15.08	15.11	15.13	15.15	15.18	15.21
RE													
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.23	15.24	15.23	15.31	15.33	15.34	15.21	15.21	15.17	15.10	14.97	14.59	





### HSD SHROUDED PROPELLER TEST

PHASE 1 - 1.8 FT TEST SECTION

## PRESSURE DATA

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RUN - PT NO 335-9 COMEIGURATION L I S C C L S C E I S C B P W T T L R L R E T P
THETA 3/4 = 30.0 DEG RPM 5500

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RH0 = 14.653 PSIA    RINE = 14.275 PSIA    TSC = 70.21 DEG F    RHO = 0.00227 SLUGS/CU FT

$M = 0.1937$      $V = 218.18$  E96     $Q = 531.980$  PSF     $PSI = 0.$  DEG

## SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	1215	15	17	20	25	30
S1T	0.78	-0.11	+0.53	-1.03	-0.93	-0.98	-1.00	-0.77	-0.70	-0.65	-0.87	-0.75	-0.71
S1B	0.78	0.81	0.47	-0.22	-0.81	-1.16	-1.43	-1.30	-1.54	1.00	-0.11	-0.96	-0.82
S2T	0.79	-0.46	-1.16	-1.58	-1.36	-1.47	-1.01	-0.93	-0.83	-0.78	-0.83	-0.72	-0.15
S2B	0.79	0.84	0.59	0.16	-0.78	-1.05	-1.31	-1.34	-1.17	-1.87	-1.25	-1.06	-0.97
		35	40	50	60	70	80	90	92	94	96	98	TE0
S1T		-0.155	-0.49	-0.42	-0.23	-0.11	-0.03	0.09					
S1B		-0.82	-0.54	-0.32	-0.29	-0.12	-0.03	0.08	0.09	0.09	0.13	0.15	0.20
S2T		-0.61	-0.51	-0.39	-0.28	-0.16	-0.06	0.07					
S2B		-0.73	-0.52	-0.38	-0.28	-0.14	-0.04	0.03	0.07	0.10	0.10	0.16	0.20

## INLET VELOCITIES, FPS

ORIENTATION	01	03	04	06	07	09	10	12	13	15	V AVE
R1	278.35	250.07	243.95	270.40	247.57	234.51	246.76	253.46	250.54	251.18	253.58

EXIT RAKE PRESSURES, KSI A

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE RE	14J58	14.62	14.67	14.72	14.75	14.75	14.77	14.77	14.79	14.80	14.82	14.83	14.84
ORIFICE RE	14J85	14.85	14.84	14.85	14.86	14.86	14.85	14.84	14.73	14.46	14.63	14.63	

TABLE IX

HSD SHROUDED PROPELLER TEST

PHASE I - 18 FT TEST SECTION

PRESSURE DATA

RUN - PI NO 340-9 CONFIGURATION L13C61SC15CB3PMTTIR1ETP WETA 3/4 = 30.0 DEG RPM 7500

HQ = 14.557 PSIA PINE = 14.528 PSIA TSC = 54.72 DEG F RH0 = 0.00235 SLUGS/CU FT

M = 0.0537 V = 59.75 FPS Q = 4.216 PSF PSI = 0. DEG

SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12	15	17	20	25	30
S1T	-26.72	-12.87	-6.40	-1.88	0.40	0.79	1.00	1.00	1.00	0.90	0.79	0.69	0.59
S1B	-26.72	-38.03	-40.89	-46.29	-52.71	-51.79	-49.86	-43.93	-27.54	0.29	0.09	-34.59	-24.04
S2T	-27.04	-12.04	-6.07	-0.98	0.27	0.79	0.90	0.90	1.00	0.90	0.79	0.79	0.71
S2B	-27.04	-37.31	-40.19	-47.58	-53.91	-52.17	-51.45	-48.17	-36.50	-56.17	-43.46	-32.91	-25.23

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	348.35	370.60	320.56	321.04	286.22	282.41	262.63	247.50	248.14	241.75	292.92

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RB	14.73	14.82	14.39	14.93	14.95	14.97	14.99	15.03	15.07	15.10	15.11	15.12	15.13

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RB	15.15	15.22	15.30	15.34	15.36	15.37	15.36	15.31	15.13	14.55	14.56	14.55

# TABLE

0590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE 1 - 18 FT TEST SECTION

#### PRESSURE DATA

RUN - PJ NO 341-29 CONFIGURATION L1SCC1SC21SCB3PWT1R1RET P THERA 3/4 = 30.0 DEG RPM 7000

HO = 14.537 PSIA PINE = 14.137 PSIA JSC = 75.42 DEG F RHO = 0.00223 SLUGS/CU FT

M = 0.12002 V = 226.49 FPS Q = 57.087 PSF PSI = 0. DEG

#### SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12	15	17	20	25	30
S1T	0.93	0.18	-0.27	-0.08	-0.93	-0.96	-0.65	-0.52	-0.46	-0.42	-0.64	-0.54	-0.52
S1B	0.93	0.18	-0.01	-0.08	-1.65	-1.99	-2.27	-2.32	-1.54	1.01	-0.04	-1.44	-1.19
S2T	0.93	0.18	-0.44	-0.06	-0.86	-1.00	-0.68	-0.65	-0.58	-0.53	-0.59	-0.51	-0.02
S2B	0.93	0.51	0.00	-0.90	-1.65	-1.91	-2.18	-2.15	-1.68	-3.19	-2.06	-1.68	-1.37

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.138	-0.135	-0.128	-0.110	-0.02	0.05	0.18	0.12	0.15	0.18	0.21	0.29
S1B	-1.123	-0.821	-0.134	-0.130	-0.12	0.02	0.15	0.15	0.15	0.18	0.24	0.27
S2T	-0.144	-0.136	-0.128	-0.115	-0.07	0.06	0.15	0.12	0.15	0.18	0.24	0.27
S2B	-1.115	-0.78	-0.43	-0.31	-0.13	-0.01	0.09	0.12	0.15	0.18	0.24	0.27

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	341.60	351.81	317.84	319.37	360.52	299.98	291.26	280.78	288.67	287.53	308.74

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.53	14.50	14.64	14.70	14.74	14.77	14.80	14.82	14.84	14.86	14.88	14.90	14.92
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.94	14.95	14.96	14.98	14.99	15.00	15.00	15.06	14.83	14.37	14.51	14.51	

TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 654- 6 CONFIGURATION LIC1E1B3PRT3R1RETP THETA 3/4 = 38.0 DEG RPM 4502.

H0 = 14.743 PSIA PINF = 13.852 PSIA TSC = 70.34 DEG F RHO = 0.00222 SLUGS/CU FT

M = 0.3096 V = 346.75 FPS Q = 133.674 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1F	0.56	0.94	1.36	1.27	1.53	1.00	0.98	0.72	0.59	0.52	0.49	0.54	0.40
S1B	0.56	0.89	0.26	0.07	-0.10	-0.42	-0.43	-0.39	-0.38	-0.32	0.37	0.29	-0.11
S2F	0.54	2.71	1.58	1.76	1.24	1.04	0.85	0.67	0.60	0.54	0.48	0.45	0.52
S2B	0.54	0.88	0.26	0.00	-0.30	-0.41	-0.48	-0.47	-0.37	-0.33	-0.13	-0.12	-0.11
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1F	-0.41	-0.36	-0.29	-0.23	-0.16	-0.07	0.10						
S1B	-0.05	-0.12	-0.01	-0.10	-0.17	-0.07	0.15	0.15	0.16	0.17	0.17	0.18	0.13
S2F	-0.47	-0.41	-0.33	-0.24	-0.18	-0.10	0.02						
S2B	-0.11	-0.11	-0.12	-0.04	-0.05	-0.09	0.13	0.13	0.14	0.16	0.18	0.05	0.22

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	368.21	361.94	341.59	341.59	336.75	335.79	324.08	329.03	312.89	327.99	337.99

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.53	14.62	14.73	14.79	14.81	14.82	14.83	14.83	14.83	14.83	14.83	14.83	14.83
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.83	14.83	14.39	14.82	14.81	14.80	14.43	14.78	14.61	14.34	14.75	14.74	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 38.0 DEG RPM 6505.

RUN - PT NO 654-7 CONFIGURATION 11C1E1B3PRT3R1RETP

HO = 14.743 PSIA PINF = 13.852 PSIA TSC = 71.64 DEG F RHO = 0.00222 SLUGS/CU FT

M = 0.3096 V = 347.18 FPS Q = 133.674 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.81	0.48	0.95	1.00	1.24	0.69	0.71	0.50	0.45	0.39	0.37	0.54	0.31
S1B	0.81	0.73	0.19	0.46	0.66	1.06	1.04	0.92	0.84	0.67	0.42	0.34	0.70
S2T	0.81	0.23	1.09	1.30	0.91	0.79	0.63	0.50	0.44	0.41	0.37	0.33	0.43
S2B	0.31	0.69	0.23	0.48	0.99	1.07	1.09	1.06	0.89	0.80	0.54	0.48	0.46
	35	40	50	60	70	80	90	92	94	96	98	TE0	
S1T	0.33	0.29	0.23	0.17	0.09	0.03	0.14	0.18	0.20	0.20	0.20	0.20	0.18
S1B	0.46	0.31	0.05	0.02	0.10	0.16	0.19	0.18	0.20	0.20	0.20	0.20	0.18
S2T	0.38	0.35	0.26	0.18	0.13	0.04	0.08	0.18	0.21	0.22	0.22	0.22	0.27
S2B	0.42	0.29	0.15	0.04	0.05	0.14	0.18	0.18	0.21	0.22	0.22	0.22	0.27

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	428.81	428.81	403.33	403.33	395.06	392.54	377.16	380.63	321.85	374.11	390.56

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.69	14.79	14.86	14.92	14.97	15.02	15.05	15.07	15.10	15.11	15.13	15.15	15.16
	14	15	16	17	18	19	20	21	22	23	24	25	
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.17	15.18	14.63	15.20	15.21	15.22	14.55	15.18	14.91	14.40	14.75	14.75	

TABLE IX

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 654-11 CONFIGURATION LIC1E1B3PRT3R1RETP THETA 3/4 = 38.0 DEG RPM 5501.

HO = 14.751 PSIA PINF = 13.869 PSIA TSC = 72.81 DEG F RHO = 0.00222 SLUGS/CU FT

M = 0.3078 V = 345.57 FPS Q = 132.280 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.71	0.69	1.14	1.10	1.24	0.87	0.86	0.61	0.52	0.46	0.42	0.50	0.34
S18	0.71	0.83	0.05	0.19	0.36	0.72	0.72	0.64	0.60	0.48	0.35	0.25	0.38
S27	0.69	0.84	1.33	1.54	1.07	0.91	0.74	0.58	0.52	0.47	0.43	0.40	0.51
S28	0.69	0.80	0.03	0.25	0.59	0.70	0.74	0.72	0.61	0.54	0.33	0.30	0.28
	35	40	50	60	70	80	90	92	94	96	98	1E0	
S17	0.37	0.33	0.25	0.21	0.12	0.05	0.11						
S18	0.28	0.21	0.13	0.02	0.06	0.10	0.17	0.16	0.19	0.18	0.19	0.16	
S27	0.47	0.43	0.33	0.24	0.19	0.11	0.01						
S28	0.24	0.19	0.12	0.05	0.06	0.11	0.15	0.16	0.17	0.20	0.06	0.21	

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	395.95	392.38	370.71	369.83	361.82	360.91	347.06	351.73	339.89	348.39	363.87

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.66	14.72	14.79	14.86	14.91	14.93	14.94	14.96	14.96	14.97	14.98	14.98	14.99
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.00	15.00	14.51	15.00	15.00	14.99	14.52	14.93	14.70	14.39	14.76	14.76	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 655- 6 CONFIGURATION LIC1E183PRT3R1RET P THETA 3/4 = 46.0 DEG RPM 4500.

H0 = 14.753 PSIA PINF = 13.216 PSIA TSC = 72.94 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4127 V = 460.01 FPS Q = 226.424 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.59	-0.91	-1.33	-1.23	-1.52	-0.98	-0.95	-0.69	-0.58	-0.49	-0.44	-0.49	-0.36
S1B	0.59	0.92	0.31	0.12	-0.04	-0.37	-0.38	-0.34	-0.33	-0.26	0.31	0.24	-0.09
S2T	0.58	-0.53	-1.53	-1.73	-1.22	-1.00	-0.81	-0.64	-0.55	-0.50	-0.45	-0.41	-0.49
S2B	0.58	0.91	0.29	0.04	-0.24	-0.35	-0.41	-0.42	-0.32	-0.27	-0.10	-0.07	-0.08
	35	40	50	60	70	80	90	92	94	96	98	100	100
S1T	-0.36	-0.33	-0.25	-0.19	-0.11	-0.04	0.14						
S1B	-0.08	-0.06	-0.07	0.02	0.10	0.14	0.20	0.18	0.21	0.21	0.21	0.21	0.18
S2T	-0.44	-0.41	-0.31	-0.21	-0.17	-0.08	0.04						
S2B	-0.07	-0.06	-0.07	0.01	0.08	0.13	0.17	0.18	0.20	0.22	0.22	0.23	0.23

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	479.76	474.06	448.48	444.71	438.83	437.09	421.52	427.02	381.59	424.30	437.72

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.43	14.54	14.67	14.78	14.84	14.85	14.86	14.87	14.87	14.87	14.88	14.88	14.80
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.89	14.88	14.18	14.87	14.86	14.85	14.30	14.82	14.55	14.08	14.76	14.76	

TABLE IX

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 655- 7 CONFIGURATION LIC1E1B3PRT3R1RETP THETA 3/4 = 46.0 DEG RPM 6500.

H0 = 14.760 PSIA PINF = 13.223 PSIA TSC = 72.94 DEG F RHD = 0.00214 SLUGS/CU FT

M = 0.4126 V = 459.92 FPS Q = 226.458 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.80	0.52	0.99	1.06	1.24	0.78	0.75	0.53	0.45	0.38	0.36	0.46	0.28
S1B	0.80	0.80	0.04	0.29	0.49	0.91	0.87	0.79	0.73	0.57	0.43	0.29	0.53
S2T	0.78	0.31	1.16	1.40	0.96	0.81	0.66	0.51	0.44	0.41	0.37	0.33	0.45
S2B	0.78	0.77	0.08	0.36	0.78	0.89	0.91	0.90	0.75	0.67	0.44	0.39	0.34

	35	40	40	50	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.31	-0.27	-0.20	-0.09	-0.15	-0.08	0.00	0.16						
S1B	-0.36	-0.21	-0.09	-0.00	-0.09	-0.09	-0.14	-0.22	-0.21	-0.22	-0.23	-0.23	-0.20	
S2T	-0.40	-0.36	-0.28	-0.11	-0.19	-0.15	-0.05	0.07						
S2B	-0.29	-0.18	-0.11	-0.00	-0.00	-0.09	-0.15	-0.21	-0.21	-0.22	-0.25	-0.01	-0.26	

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
ORIFICE R1	547.74	547.74	514.59	512.57	503.09	500.36	477.40	484.48	405.66	477.02	497.06

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE RE	14.58	14.69	14.79	14.88	14.94	15.01	15.09	15.16	15.22	15.26	15.30	15.34	15.37
ORIFICE RE	14	15	16	17	18	19	20	21	22	23	24	25	
	15.39	15.43	14.55	15.44	15.45	15.46	14.57	15.33	14.94	14.18	14.76	14.77	



## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 655-11 CONFIGURATION L1C1E1B3PRT3R1RETP THETA 3/4 = 46.0 DEG RPM 5499.

H0 = 14.760 PSIA PINF = 13.223 PSIA TSC = 73.20 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4126 V = 460.03 FPS Q = 226.458 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.69	0.74	1.19	1.13	-1.41	-0.90	-0.89	-0.64	-0.53	-0.46	-0.42	-0.48	-0.34
S1B	0.69	0.87	0.16	-0.04	-0.23	-0.60	-0.59	-0.53	-0.51	-0.41	0.37	0.26	-0.28
S2T	0.68	0.77	1.38	1.68	-1.11	-0.92	-0.75	-0.59	-0.52	-0.46	-0.41	-0.38	-0.46
S2B	0.68	0.86	0.14	-0.12	-0.46	-0.56	-0.61	-0.61	-0.49	-0.44	-0.24	-0.21	-0.20

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
ORIFICE	507.56	502.76	474.63	473.19	465.14	463.68	443.65	451.18	430.81	446.86	465.95

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE	14.53	14.62	14.72	14.80	14.88	14.94	14.98	15.01	15.01	15.03	15.05	15.05	15.06
RE	14.53	14.62	14.72	14.80	14.88	14.94	14.98	15.01	15.01	15.03	15.05	15.05	15.06

	14	15	16	17	18	19	20	21	22	23	24	25
ORIFICE	15.07	15.07	14.29	15.08	15.08	15.08	14.68	15.04	14.69	14.12	14.76	14.76
RE	15.07	15.07	14.29	15.08	15.08	15.08	14.68	15.04	14.69	14.12	14.76	14.76

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 656-6 CONFIGURATION L1C1E1B3PRT3R1RETP THETA 3/4 = 50.0 DEG RPM 4504.

H0 = 14.770 PSIA PINF = 12.466 PSIA TSC = 80.75 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5147 V = 572.70 FPS Q = 331.843 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.60	-1.03	-1.54	-1.43	-1.68	-0.45	-1.19	-0.86	-0.71	-0.60	-0.54	-0.51	-0.44
S1B	0.60	0.95	0.35	0.16	-0.02	-0.36	-0.39	-0.36	-0.35	-0.29	0.30	0.08	-0.09
S2T	0.58	-0.70	-1.69	-2.01	-1.45	-1.18	-0.98	-0.78	-0.67	-0.61	-0.55	-0.49	-0.55
S2B	0.58	0.94	0.33	0.08	-0.21	-0.33	-0.39	-0.43	-0.33	-0.28	-0.11	-0.08	-0.07

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.45	-0.40	-0.32	-0.26	-0.17	-0.08	0.10	0.15	0.17	0.17	0.17	0.14
S1B	-0.10	-0.10	-0.13	-0.02	0.05	0.10	0.16	0.15	0.17	0.17	0.17	0.14
S2T	-0.50	-0.46	-0.36	-0.25	-0.20	-0.10	0.03	0.15	0.17	0.19	0.06	0.22
S2B	-0.08	-0.09	-0.14	-0.04	0.04	0.09	0.14	0.15	0.17	0.19	0.06	0.22

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	592.52	583.10	552.74	548.87	542.38	541.07	520.52	529.88	470.08	528.55	540.97

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.11	14.35	14.57	14.75	14.84	14.84	14.84	14.85	14.85	14.83	14.85	14.85	14.84
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
SE	14.83	14.83	13.80	14.81	14.79	14.79	14.52	14.78	14.48	13.60	14.77	14.77	

TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 656- 7 CONFIGURATION 11C1E1B3PRT3R1RE7P THETA 3/4 = 50.0 DEG RPM 6503.

H0 = 14.767 PSIA PINF = 12.469 PSIA TSC = 80.75 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5139 V = 571.82 FPS Q = 330.883 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.72	0.78	1.32	-1.30	-1.62	0.21	-1.01	-0.75	-0.62	-0.52	-0.48	-0.47	-0.39
S1B	0.72	0.89	0.16	-0.08	-0.28	-0.69	-0.70	-0.65	-0.62	-0.49	0.38	0.09	-0.37
S2T	0.70	0.15	1.48	-1.84	-1.27	-1.05	-0.86	-0.68	-0.59	-0.55	-0.49	-0.44	-0.52
S2B	0.70	0.88	0.13	-0.11	-0.54	-0.67	-0.72	-0.74	-0.60	-0.53	-0.34	-0.27	-0.25

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	648.90	644.87	605.71	605.71	595.90	592.85	567.57	577.62	483.21	570.67	589.30

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.31	14.47	14.63	14.70	14.91	15.03	15.13	15.18	15.23	15.26	15.30	15.32	15.33

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.33	15.35	14.16	15.35	15.35	15.34	14.32	15.12	14.62	13.74	14.77	14.77

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 50.0 DEG RPM 5501.

RUN - PT NO 656-11 CONFIGURATION LIC1E1B3PRT3R1RETP

H0 = 14.771 PSIA PINF = 12.459 PSIA TSC = 82.05 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5157 V = 574.41 FPS Q = 332.912 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.67	-0.89	-1.43	-1.35	-1.66	-0.99	-1.08	-0.79	-0.66	-0.56	-0.51	-0.47	-0.42
S1B	0.67	-0.93	0.26	0.04	-0.15	-0.54	-0.55	-0.52	-0.49	-0.40	0.34	0.10	-0.24
S2T	0.65	-0.25	-1.61	-1.97	-1.32	-1.11	-0.91	-0.72	-0.63	-0.57	-0.52	-0.48	-0.58
S2B	0.65	0.91	0.24	-0.02	-0.37	-0.50	-0.56	-0.58	-0.47	-0.41	-0.22	-0.18	-0.18
	35	40	50	60	70	80	90	92	94	96	98	1E0	
S1T	-0.43	-0.39	-0.31	-0.25	-0.16	-0.07	0.11	0.16	0.17	0.17	0.18	0.14	
S1B	-0.19	-0.16	-0.15	-0.04	-0.05	-0.10	0.01	0.01	0.15	0.17	0.20	0.09	0.21
S2T	-0.53	-0.49	-0.39	-0.29	-0.23	-0.13	0.01	0.15	0.17	0.17	0.20	0.09	0.21
S2B	-0.16	-0.14	-0.14	-0.05	-0.05	-0.10	0.15	0.15	0.17	0.20	0.09	0.21	

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	622.90	616.82	581.55	579.68	570.92	569.02	87.19	555.75	517.53	549.93	525.13

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.22	14.40	14.59	14.75	14.88	14.95	14.99	15.00	15.01	15.03	15.03	15.05	15.06
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.07	15.06	13.95	15.06	15.05	15.04	14.19	14.94	14.50	13.66	14.78	14.77	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 38.0 DEG RPM 4498.

RUN - PT NO 658- 6 CONFIGURATION L1C1E1B3PNTTIRIRETP

HO = 14.831 PSIA PINF = 13.937 PSIA TSC = 67.74 DEG F RHO = 0.00225 SLUGS/CU FT

M = 0.3093 V = 345.56 FPS Q = 134.216 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.57	-0.96	-1.35	-1.25	-1.53	-0.97	-0.98	-0.71	-0.58	-0.52	-0.48	-0.53	-0.40
S1B	0.57	0.90	0.27	0.12	-0.08	-0.38	-0.40	-0.40	-0.37	-0.31	0.28	0.23	-0.11
S2T	0.53	-1.82	-1.59	-1.76	-1.23	-1.02	-0.84	-0.66	-0.58	-0.54	-0.48	-0.44	-0.53
S2B	0.53	0.88	0.25	-0.03	-0.26	-0.36	-0.42	-0.43	-0.33	-0.30	-0.11	-0.10	-0.10
	35	40	50	60	70	80	90	92	94	96	98	TEO	
S1T	-0.40	-0.36	-0.30	-0.24	-0.16	-0.07	0.09	0.16	0.17	0.17	0.18	0.14	
S1B	-0.08	-0.11	-0.10	-0.00	-0.06	-0.10	0.16	0.01	0.14	0.17	0.05	0.21	
S2T	-0.46	-0.42	-0.34	-0.24	-0.19	-0.12	0.01	0.13					
S2B	-0.10	-0.10	-0.11	-0.03	0.05	0.09	0.13						

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
ORIFICE	01	03	04	06	07	09	10	12	13	15	
RI	364.00	357.31	341.53	340.59	333.93	334.89	35.01	326.18	272.71	324.63	303.08

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.55	14.74	14.83	14.90	14.91	14.91	14.91	14.92	14.92	14.92	14.92	14.92	14.93
	14.92	14.91	14.49	14.90	14.88	14.86	14.38	14.83	14.68	14.44	14.83	14.83	

HSD SHROUDED PROPELLER TEST  
PHASE I - 8 FT TEST SECTION

RUN	PT	NO	CONFIGURATION	IC1E1B3PNTT1R1RETP	THETA 3/4 = 38.0 DEG	RPM
		658-7				6504.

$\rho_{H_2O} = 14.830 \text{ PSIA}$      $\rho_{N_2} = 13.932 \text{ PSIA}$      $T_{SC} = 68.26 \text{ DEG F}$      $\rho_{H_2O} = 0.00225 \text{ SLUGS/CU FT}$

M = 0.3100 V = 346.50 FPS Q = 134.778 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.80	-0.49	-0.96	-1.01	-0.70	-0.71	-0.50	-0.45	-0.38	-0.36	-0.52	-0.30
S18	0.80	0.74	-0.17	-0.42	-1.03	-0.99	-0.89	-0.83	-0.64	0.41	0.34	-0.66
S21	0.80	2.38	-1.10	-1.33	-0.80	-0.65	-0.52	-0.46	-0.42	-0.38	-0.33	-0.43
S28	0.80	0.71	-0.20	-0.42	-1.03	-1.04	-1.04	-0.88	-0.79	-0.54	-0.49	-0.45

	35	40	50	60	70	80	90	92	94	96	98	FE0
S17	-0.33	-0.29	-0.22	-0.16	-0.08	-0.02	0.14					
S18	-0.47	-0.32	-0.11	-0.02	0.08	0.12	-0.20	0.19	-0.20	-0.20	0.21	0.18
S21	-0.38	-0.35	-0.27	-0.17	-0.14	-0.05	0.07					
S28	-0.42	-0.28	-0.16	-0.04	0.06	0.12	0.18	0.18	0.21	0.22	0.01	0.25

### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	423.32	422.82	398.10	398.10	389.84	389.01	55.34	376.36	291.95	372.77	351.76

**EXIT RAKE PRESSURES, PSIA**

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.85	14.98	15.03	15.04	15.08	15.14	15.17	15.21	15.24	15.24	15.25	15.27	15.28
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.28	15.28	14.72	15.26	15.25	15.24	14.52	15.16	14.93	14.49	14.84	14.84	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 38.0 DEG RPM 6502.

RUN - PT NO 658-8 CONFIGURATION LICIE183PNTTIRIRETP

HO = 14.831 PSIA PINF = 13.939 PSIA TSC = 67.74 DEG F RHO = 0.00225 SLUGS/CU FT

M = 0.3088 V = 345.08 FPS Q = 133.864 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.81	0.49	0.96	0.99	1.24	0.68	0.71	0.50	0.45	0.39	0.36	0.53	0.31
S1B	0.61	0.73	0.19	0.45	0.63	1.01	1.01	0.91	0.83	0.64	0.42	0.36	0.67
S2T	0.61	1.17	1.12	1.34	0.93	0.79	0.65	0.51	0.45	0.41	0.37	0.33	0.47
S2B	0.81	0.70	0.22	0.53	0.96	1.04	1.06	1.03	0.87	0.77	0.53	0.47	0.44
	35	40	40	50	60	70	80	90	92	94	96	98	100
S1T	-0.33	-0.29	-0.29	-0.23	-0.17	-0.09	-0.03	0.14	0.18	0.21	0.20	0.21	0.18
S1B	-0.47	-0.32	-0.32	-0.11	-0.02	0.08	0.13	0.20	0.19	0.21	0.23	0.03	0.24
S2T	-0.43	-0.39	-0.39	-0.30	-0.21	-0.17	-0.08	0.05	0.19	0.21	0.23	0.03	0.24
S2B	-0.42	-0.21	-0.21	-0.14	-0.04	0.06	0.13	0.19	0.19	0.21	0.23	0.03	0.24

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
ORIFICE R1	421.51	422.07	399.76	398.94	390.63	388.96	60.61	377.10	315.62	370.63	354.58

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE RE	14.85	14.98	15.03	15.04	15.08	15.13	15.17	15.21	15.24	15.24	15.25	15.27	15.28
	14	15	16	17	18	19	20	21	22	23	24	25	
ORIFICE RE	15.28	15.28	14.73	15.26	15.25	15.24	14.53	15.16	14.94	14.49	14.84	14.84	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 38.0 DEG RPM 5498.

RUN - PT NO 658-12 CONFIGURATION LIC1E1B3PNTTIRRETP

H0 = 14.831 PSIA PINF = 13.944 PSIA TSC = 68.91 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3080 V = 344.51 FPS Q = 133.159 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.70	0.71	1.13	1.09	1.35	0.85	0.85	0.62	0.52	0.45	0.41	0.51	0.35
S1B	0.70	0.83	0.07	-0.15	-0.32	-0.69	-0.68	-0.63	-0.57	-0.46	0.35	0.34	-0.35
S2T	0.68	1.13	1.32	1.55	1.06	-0.90	-0.74	-0.59	-0.51	-0.47	-0.42	-0.38	-0.50
S2B	0.68	0.81	0.03	-0.23	-0.58	-0.68	-0.71	-0.71	-0.58	-0.52	-0.30	-0.26	-0.24
			40	50	60	70	80	90	92	94	96	98	100
S1T	-0.37	-0.32	-0.25	-0.19	-0.13	-0.05	0.12						
S1B	-0.26	-0.20	-0.10	-0.02	-0.06	-0.13	-0.10		0.17	0.18	0.19	0.20	0.15
S2T	-0.46	-0.43	-0.34	-0.25	-0.20	-0.11	0.02		0.17	0.18	0.21	0.05	0.22
S2B	-0.24	-0.20	-0.12	-0.03	-0.05	-0.11	0.16						

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	391.34	387.94	366.48	366.48	360.18	359.28	35.05	348.40	334.79	346.09	329.60

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.76	14.84	14.90	14.95	15.02	15.04	15.06	15.07	15.08	15.08	15.09	15.09	15.09
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.09	15.09	14.60	15.07	15.05	15.04	14.45	14.96	14.75	14.47	14.84	14.84	



TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 659- 6 CONFIGURATION LIC1E1B3PNTT1R1RET P THETA 3/4 = 46.0 DEG RPM 4502.

H0 = 14.838 PSIA PINF = 13.297 PSIA TSC = 74.24 DEG F RHO = 0.00215 SLUGS/CU FT

M = 0.4120 V = 459.86 FPS Q = 227.093 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.60	-0.92	-1.32	-1.21	-1.49	-0.96	-0.96	-0.70	-0.57	-0.49	-0.45	-0.50	-0.36
S18	0.60	0.93	0.32	0.10	-0.04	-0.36	-0.38	-0.35	-0.31	-0.27	0.30	0.28	-0.08
S27	0.57	-0.21	-1.54	-1.75	-1.22	-1.00	-0.82	-0.65	-0.56	-0.51	-0.46	-0.41	-0.51
S28	0.57	0.91	0.30	0.03	-0.23	-0.33	-0.39	-0.41	-0.30	-0.25	-0.08	-0.06	-0.06
	35	40	50	60	70	80	90	92	94	96	98	FE0	
S17	-0.38	-0.33	-0.26	-0.20	-0.12	-0.04	0.13						
S18	-0.07	-0.07	-0.07	0.02	0.09	0.14	0.19	0.18	0.20	0.21	0.21	0.21	0.16
S27	-0.46	-0.42	-0.33	-0.23	-0.18	-0.09	0.04						
S28	-0.06	-0.06	-0.06	0.01	0.08	0.13	0.17	0.19	0.20	0.22	0.24	0.23	

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	474.48	469.47	445.28	444.53	437.02	435.49	60.98	423.78	362.23	423.27	397.65

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.57	14.66	14.78	14.87	14.94	14.94	14.96	14.96	14.96	14.97	14.98	14.98	14.97
ORIFICE	14	15	16	17	19	20	21	22	23	24	25		
RE	14.97	14.96	14.27	14.93	14.91	14.90	14.35	14.85	14.62	14.16	14.84	14.84	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE 1 - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 46.0 DEG RPM 6498.

RUN - 9T NO 659- 7 CONFIGURATION L1C1E1B3PNTT1R1RETP

H0 = 14.835 PSIA PINF = 13.296 PSIA TSC = 75.55 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4117 V = 460.10 FPS Q = 226.743 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LE0	C1	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.79	0.53	-0.99	-1.01	-1.26	-0.76	-0.76	-0.53	-0.45	-0.38	-0.35	-0.47	-0.29
S1B	0.79	0.81	-0.04	-0.27	-0.48	-0.88	-0.86	-0.77	-0.72	-0.56	0.41	0.37	-0.52
S2T	0.78	0.19	-1.16	-1.41	-0.97	-0.82	-0.66	-0.52	-0.45	-0.42	-0.37	-0.33	-0.43
S2B	0.78	0.78	-0.05	-0.29	-0.76	-0.85	-0.88	-0.88	-0.73	-0.65	-0.43	-0.36	-0.32

	35	40	50	50	70	80	90	92	94	96	98	TE0
S1T	-0.31	-0.27	-0.21	-0.15	-0.07	-0.00	0.16					
S1B	-0.36	-0.20	-0.09	0.00	0.10	0.15	0.22	0.21	0.23	0.23	0.23	0.20
S2T	-0.39	-0.36	-0.27	-0.16	-0.13	-0.04	0.08					
S2B	-0.30	-0.17	-0.12	-0.01	0.09	0.15	0.21	0.21	0.23	0.25	0.00	0.28

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	538.74	539.51	509.05	509.72	498.83	496.08	70.50	481.51	380.45	475.50	449.99

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.73	14.90	15.02	15.05	15.06	15.10	15.16	15.24	15.32	15.37	15.40	15.42	15.44

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.46	15.47	14.62	15.47	15.47	15.47	15.45	14.49	15.30	14.93	14.84	14.84

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 46.0 DEG RPM 5501.

RUN - PT NO 659-11 CONFIGURATION L1C1E1B3PNTTIRIRETP

H0 = 14.839 PSIA PINF = 13.304 PSIA TSC = 76.72 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4112 V = 460.03 FPS Q = 226.297 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.70	0.74	1.17	1.11	1.40	0.83	0.63	0.52	0.44	0.41	0.48	0.33
S1B	0.70	0.88	0.17	0.04	0.23	0.57	0.53	0.50	0.40	0.34	0.32	0.27
S2T	0.66	0.42	1.38	1.62	1.11	0.92	0.59	0.51	0.47	0.42	0.38	0.48
S2B	0.66	0.86	0.15	0.11	0.45	0.54	0.59	0.48	0.42	0.24	0.20	0.19
	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	0.35	0.31	0.24	0.18	0.10	0.03	0.14					
S1B	0.20	0.14	0.09	0.00	0.09	0.14	0.20	0.19	0.21	0.21	0.21	0.18
S2T	0.43	0.40	0.30	0.21	0.17	0.07	0.06					
S2B	0.17	0.13	0.09	0.00	0.08	0.14	0.18	0.19	0.21	0.23	0.01	0.24

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	501.00	498.62	473.25	472.53	465.31	460.19	55.77	448.40	410.84	445.91	423.18

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.68	14.77	14.83	14.89	14.98	15.04	15.07	15.11	15.12	15.13	15.14	15.15	15.16
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.16	15.16	14.40	15.13	15.12	15.10	14.40	15.06	14.73	14.20	14.84	14.84	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 660- 6 CONFIGURATION L1C1E1B3PNT11R1RETP THETA 3/4 = 50.0 DEG RPM 4498.

H0 = 14.838 PSIA PINF = 12.517 PSIA TSC = 82.05 DEG F RHO = 0.00203 SLUGS/CU FT

M = 0.5155 V = 574.23 FPS Q = 334.239 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.80	-1.02	-1.53	-1.39	-1.65	0.99	-1.20	-0.85	-0.70	-0.60	-0.53	-0.55	-0.44
S1B	0.60	0.96	0.37	0.17	-0.00	-0.34	-0.38	-0.35	-0.33	-0.28	0.29	0.14	-0.07
S2T	0.57	0.29	-1.58	-2.05	-1.42	-1.17	-0.97	-0.78	-0.67	-0.60	-0.54	-0.49	-0.54
S2B	0.57	0.94	0.35	0.09	-0.20	-0.31	-0.37	-0.41	-0.32	-0.27	-0.10	-0.07	-0.07

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.44	-0.40	-0.31	-0.25	-0.17	-0.08	0.10	0.17	0.16	0.17	0.18	0.14
S1B	-0.07	-0.11	-0.13	-0.02	0.06	0.10	0.17	0.16	0.17	0.17	0.18	0.14
S2T	-0.50	-0.47	-0.36	-0.26	-0.21	-0.11	0.02	0.14	0.15	0.17	0.26	0.22
S2B	-0.06	-0.10	-0.14	-0.04	0.04	0.09	0.14	0.15	0.17	0.26	0.26	0.22

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
ORIFICE	585.41	580.87	552.65	550.72	542.97	539.71	79.33	528.43	448.93	527.27	493.63

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE	14.27	14.47	14.67	14.83	14.90	14.91	14.92	14.92	14.92	15.14	14.93	14.93	14.92

	14	15	16	17	18	19	20	21	22	23	24	25
ORIFICE	14.91	14.89	13.88	14.85	14.83	14.82	13.86	14.78	14.49	13.66	14.84	14.84

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 50.0 DEG RPM 6500.

RUN - PT NO 660-7 CONFIGURATION L1C1E1B3PNTTIR1RETP

H0 = 14.839 PSIA PINF = 12.514 PSIA TSC = 83.22 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5160 V = 575.39 FPS Q = 334.806 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1F	0.71	0.77	1.37	1.32	1.64	1.00	-1.02	-0.75	-0.63	-0.53	-0.49	-0.54	-0.40
S1B	0.71	0.89	0.16	-0.06	-0.27	-0.67	-0.57	-0.64	-0.59	-0.48	0.36	0.14	-0.35
S2F	0.69	0.32	1.56	1.91	1.24	1.05	-0.86	-0.68	-0.60	-0.55	-0.49	-0.45	-0.51
S2B	0.69	0.88	0.15	-0.08	-0.52	-0.64	-0.70	-0.72	-0.59	-0.52	-0.32	-0.26	-0.24

	35	40	50	60	70	80	90	92	94	96	98	FE0
S1F	-0.42	-0.37	-0.31	-0.23	-0.15	-0.06	0.12	0.17	0.18	0.19	0.19	0.16
S1B	-0.26	-0.19	-0.16	-0.04	-0.05	-0.10	-0.17	-0.17	-0.17	-0.17	-0.17	-0.16
S2F	-0.52	-0.47	-0.37	-0.27	-0.21	-0.11	0.02	0.16	0.18	0.27	0.03	0.23
S2B	-0.23	-0.17	-0.16	-0.06	-0.04	-0.10	-0.16	-0.17	-0.18	-0.27	-0.03	-0.23

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	640.76	641.19	606.35	605.75	594.98	592.54	71.04	576.73	467.48	571.25	536.80

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.47	14.63	14.78	14.88	14.97	15.08	15.18	15.26	15.32	15.14	15.40	15.42	15.42
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.42	15.40	14.22	15.34	15.31	15.30	14.00	15.17	14.65	13.77	14.84	14.84	

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

660-11 CONFIGURATION LIC1E1B3PNTT1R1RETP

THETA 3/4 = 50.0 DEG RPM 5501.

RH0 = 14.839 PSIA      PINF = 12.510 PSIA      TSC = 82.96 DEG F      RHD = 0.00202 SLUGS/CU FT

$M = 0.5165$     $V = 575.74$  FPS    $Q = 335.303$  PSF    $PSI = 0.$    DEG

### SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
\$17	0.67	0.88	1.36	1.63	0.99	1.09	0.78	0.65	0.56	0.50	0.53	0.41
\$18	0.67	0.93	0.27	0.06	-0.51	-0.53	-0.49	-0.47	-0.38	0.33	0.14	-0.22
\$27	0.64	0.71	1.53	1.31	1.10	0.90	0.71	0.62	0.56	0.51	0.46	0.39
\$28	0.64	0.91	0.25	-0.01	-0.35	-0.53	-0.56	-0.45	-0.39	-0.20	-0.15	-0.16

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
81	611.60	609.65	577.68	576.45	568.29	565.80	74.94	551.40	503.96	548.21	518.80

EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
OFFICE	14.43	14.56	14.69	14.82	14.96	15.03	15.08	15.09	15.09	15.12	15.12	15.13	15.14
RE													
OFFICE	14	15	16	17	18	19	20	21	22	23	24	25	
PE	15.13	15.12	14.03	15.09	15.06	15.04	13.84	14.96	14.54	13.71	14.84	14.84	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 662- 6 CONFIGURATION LIC1E1B4PNTTIRIRETP THETA 3/4 = 38.0 DEG RPM 4503.

H0 = 14.859 PSIA PINF = 13.973 PSIA TSC = 69.04 DEG F RHO = 0.00225 SLUGS/CU FT

M = 0.3075 V = 344.01 FPS Q = 133.008 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.54	0.94	1.30	1.25	1.49	0.96	0.97	0.69	0.59	0.52	0.47	0.52	0.39
S1B	0.54	0.94	0.27	0.07	0.08	0.38	0.42	0.38	0.35	0.30	0.26	0.21	0.10
S2T	0.55	0.96	1.54	1.74	1.21	1.01	0.84	0.67	0.58	0.53	0.48	0.43	0.52
S2B	0.55	0.88	0.24	0.04	0.29	0.37	0.43	0.45	0.33	0.29	0.10	0.10	0.09

	35	40	50	60	70	80	90	92	94	96	98	1E0
S1T	0.39	0.35	0.28	0.22	0.15	0.07	0.10					
S1B	0.10	0.10	0.09	0.01	0.07	0.12	0.16	0.16	0.18	0.17	0.17	0.13
S2T	0.48	0.45	0.35	0.25	0.21	0.12	0.22					
S2B	0.09	0.11	0.09	0.02	0.05	0.11	0.14	0.17	0.17	0.21	0.06	0.21

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	365.57	357.78	340.36	338.48	333.71	331.79	42.86	324.98	296.40	324.38	305.03

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.70	14.77	14.86	14.92	14.95	14.95	14.95	14.96	14.96	14.96	14.96	14.96	14.96
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.96	14.95	14.53	14.93	14.91	14.90	14.61	14.86	14.72	14.46	14.86	14.86	

TABLE IX

E330590 - I

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 662-7 CONFIGURATION L1C1E1B4PNTT1R1RETP THETA 3/4 = 38.0 DEG RPM 6503.

HG = 14.860 PSIA PINF = 13.971 PSIA TSC = 70.21 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3080 V = 344.95 FPS Q = 133.434 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.81	-0.46	-0.92	-0.98	-1.22	-0.65	-0.69	-0.48	-0.44	-0.37	-0.34	-0.52	-0.30
S1B	0.81	0.72	-0.22	-0.49	-0.67	-1.09	-1.05	-0.95	-0.87	-0.68	0.40	0.26	-0.74
S2T	0.82	0.96	-1.98	-1.29	-0.89	-0.78	-0.63	-0.50	-0.43	-0.40	-0.36	-0.30	-0.42
S2B	0.82	0.68	-0.25	-0.55	-1.00	-1.09	-1.12	-1.10	-0.93	-0.84	-0.59	-0.53	-0.51
	35	40	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.32	-0.28	-0.21	-0.17	-0.17	-0.09	-0.02	0.13					
S1B	-0.53	-0.32	-0.11	-0.03	-0.03	0.08	0.13	0.20	0.18	0.21	0.20	0.20	0.18
S2T	-0.37	-0.36	-0.26	-0.17	-0.17	-0.14	-0.06	0.07					
S2B	-0.45	-0.28	-0.13	-0.04	-0.04	0.06	0.13	0.18	0.19	0.21	0.22	0.00	0.25

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	429.07	428.31	403.94	403.13	394.13	392.48	60.64	379.00	313.04	372.91	357.67

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.87	14.98	15.04	15.08	15.12	15.17	15.20	15.24	15.27	15.28	15.30	15.31	15.32
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.33	15.34	14.79	15.33	15.33	15.31	14.71	15.23	15.02	14.53	14.87	14.87	



TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 38.0 DEG RPM 5498.

RUN - PT NO 662-11 CONFIGURATION L1C1E1B4PNT11R1RETP

H0 = 14.860 PSIA PINF = 13.969 PSIA TSC = 69.04 DEG F RHO = 0.00225 SLUGS/CU FT

M = 0.3084 V = 345.05 FPS Q = 133.786 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.69	0.70	1.11	1.09	1.32	0.84	0.86	0.61	0.52	0.45	0.42	0.51	0.36
S1B	0.69	0.81	0.04	0.19	0.38	0.73	0.72	0.66	0.61	0.49	0.32	0.22	0.38
S2T	0.68	0.13	1.31	1.54	1.07	0.91	0.74	0.59	0.52	0.46	0.43	0.37	0.50
S2B	0.68	0.80	0.02	0.25	0.60	0.70	0.74	0.73	0.60	0.55	0.33	0.30	0.29
S1T	35	36	40	50	60	70	80	90	92	94	96	98	TEO
S1B	-0.36	-0.36	-0.33	-0.26	-0.20	-0.13	-0.05	0.11					
S2T	-0.29	-0.29	-0.21	-0.11	-0.03	0.06	0.10	0.18	0.17	0.18	0.18	0.18	0.16
S2B	-0.45	-0.45	-0.42	-0.32	-0.23	-0.18	-0.10	0.03	0.16	0.18	0.21	0.05	0.22

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	394.36	390.14	371.25	370.38	363.33	360.66	55.35	352.47	324.54	346.42	332.89

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.79	14.87	14.93	14.99	15.04	15.06	15.07	15.09	15.10	15.10	15.12	15.13	15.12
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.14	15.13	14.65	15.11	15.10	15.08	14.65	15.00	14.79	14.49	14.86	14.86	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 663- 6 CONFIGURATION L1C1E1B4PNTT1R1RETP THETA 3/4 = 46.0 DEG RPM 4503.

HO = 14.869 PSIA PINF = 13.328 PSIA TSC = 73.46 DEG F RHO = 0.00216 SLUGS/CU FT

M = 0.4115 V = 458.96 FPS Q = 227.035 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.60	-0.89	-1.28	-1.26	-1.51	-0.91	-0.98	-0.69	-0.58	-0.50	-0.45	-0.49	-0.37
S1B	0.60	0.92	0.32	0.13	-0.04	-0.35	-0.37	-0.34	-0.33	-0.25	0.30	0.21	-0.07
S2T	0.57	0.15	-1.39	-1.76	-1.22	-1.00	-0.82	-0.65	-0.56	-0.51	-0.46	-0.40	-0.49
S2B	0.57	0.91	0.31	0.05	-0.22	-0.33	-0.39	-0.41	-0.31	-0.25	-0.09	-0.06	-0.06

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RE	477.74	467.05	442.70	441.94	434.43	434.43	55.53	422.75	391.28	423.68	395.15

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.57	14.69	14.79	14.89	14.96	14.98	14.99	14.99	14.99	15.00	15.00	15.01	15.00

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.00	14.99	14.32	14.96	14.94	14.93	14.30	14.88	14.66	14.19	14.87	14.88

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 663-7 CONFIGURATION LIC1E1B4PNTTIR1RETP

THETA 3/4 = 46.0 DEG RPM 6506.

HG = 14.864 PSIA PINF = 13.338 PSIA TSC = 73.46 DEG F RHO = 0.00216 SLUGS/CU FT

M = 0.4095 V = 456.80 FPS Q = 225.011 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.79	-0.52	-0.98	-1.00	-1.24	-0.64	-0.77	-0.53	-0.45	-0.39	-0.35	-0.46	-0.29
S1B	0.79	0.80	-0.04	-0.28	-0.49	-0.89	-0.87	-0.79	-0.73	-0.57	0.41	0.21	-0.56
S2T	0.78	0.62	-1.41	-1.41	-0.97	-0.83	-0.67	-0.51	-0.45	-0.41	-0.36	-0.31	-0.42
S2B	0.78	0.78	-0.06	-0.32	-0.75	-0.85	-0.89	-0.88	-0.74	-0.66	-0.44	-0.38	-0.35

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.31	-0.26	-0.21	-0.15	-0.08	-0.00	0.15					
S1B	-0.38	-0.20	-0.09	0.00	0.09	0.14	0.22	0.21	0.23	0.22	0.23	0.21
S2T	-0.37	-0.34	-0.26	-0.16	-0.12	-0.03	0.09					
S2B	-0.32	-0.16	-0.11	-0.00	0.10	0.15	0.20	0.21	0.23	0.38	0.01	0.29

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	540.88	538.04	507.58	506.25	495.43	496.11	65.77	477.39	373.13	471.06	447.36

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.74	14.89	15.00	15.03	15.07	15.13	15.20	15.28	15.34	15.38	15.41	15.44	15.48
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.52	15.53	14.69	15.53	15.52	15.50	14.44	15.35	14.97	14.28	14.87	14.87	

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 46.0 DEG RPM 5503.

PHO = 14.868 PSIA PTNE = 13.323 PSIA TSC = 72.29 DEG F RHO = 0.00216 SLUGS/CU FT

M = 0.4121    V = 459.05 FPS    Q = 227.565 PSF    PSI = 0.    DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.70	-0.71	-1.14	-1.13	-1.39	-0.53	-0.89	-0.62	-0.52	-0.44	-0.40	-0.47	-0.33
S18	0.70	0.87	0.15	-0.07	-0.25	-0.61	-0.61	-0.54	-0.51	-0.03	0.48	0.36	0.01
S21	0.68	-0.37	-1.37	-1.60	-1.10	-0.92	-0.75	-0.58	-0.51	-0.47	-0.41	-0.36	-0.47
S28	0.68	0.85	0.13	-0.13	-0.48	-0.58	-0.62	-0.63	-0.51	-0.45	-0.26	-0.21	-0.21
		35	40	50	60	70	80	90	92	94	96	98	100
S17		-0.34	-0.30	-0.24	-0.18	-0.10	-0.03	0.14					
S18		0.11	0.14	0.42	0.32	0.40	0.41	0.21	0.20	0.21	0.21	0.22	0.13
S21		-0.41	-0.38	-0.29	-0.19	-0.15	-0.07	0.06					
S28		-0.19	-0.13	-0.10	-0.01	0.06	0.14	0.18	0.19	0.21	0.39	0.01	0.26

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
81	508.49	502.78	475.10	473.68	464.94	464.21	55.47	449.67	402.15	447.96	424.45

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE	14.71	14.91	14.87	14.93	15.01	15.07	15.11	15.13	15.15	15.16	15.18	15.20	15.21
RE													
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.22	15.22	14.46	15.19	15.17	15.16	14.28	15.10	14.78	14.23	14.88	14.87	

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TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 664- 6 CONFIGURATION L1C1E1B4PNTTIRRETP THETA 3/4 = 50.0 DEG RPM 4501.

H0 = 14.869 PSIA PINF = 12.542 PSIA TSC = 70.86 DEG F RHO = 0.00207 SLUGS/CU FT

M = 0.5155 V = 568.26 FPS Q = 334.909 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S2T	0.59	-1.02	-1.49	-1.48	-1.72	0.93	-1.17	-0.84	-0.70	-0.60	-0.54	-0.55	-0.45
S1B	0.59	0.95	0.37	0.17	-0.00	-0.34	-0.37	-0.34	-0.33	-0.28	0.30	0.13	-0.07
S2T	0.59	-0.59	-0.25	-1.99	-1.39	-1.17	-0.97	-0.79	-0.68	-0.60	-0.55	-0.48	-0.53
S2B	0.59	0.96	0.35	0.10	-0.21	-0.31	-0.37	-0.41	-0.30	-0.25	-0.08	-0.06	-0.06

	S1T	S1B	S2T	S2B	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.44	-0.40	-0.40	-0.33	-0.25	-0.25	-0.16	-0.07	0.10							
S1B	-0.07	-0.10	-0.13	-0.02	-0.02	0.06	0.11	0.17	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.15
S2T	-0.49	-0.45	-0.35	-0.25	-0.25	-0.20	-0.10	0.03								
S2B	-0.05	-0.10	-0.13	-0.03	-0.03	0.05	0.10	0.14	0.15	0.15	0.17	0.17	0.17	0.17	0.17	0.22

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	589.50	577.45	546.66	542.21	535.72	535.08	70.10	522.10	443.58	521.63	488.40

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.24	14.47	14.67	14.85	14.94	14.95	14.96	14.97	14.97	14.96	14.97	14.97	14.95

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.95	14.93	13.95	14.89	14.87	14.85	13.87	14.81	14.52	13.69	14.87	14.87

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 664-7 CONFIGURATION L1C1E184PNT11R1RET P THETA 3/4 = 50.0 DEG RPM 6509.

H0 = 14.864 PSIA PINF = 12.536 PSIA TSC = 70.34 DEG F RHO = 0.00208 SLUGS/CU FT

M = 0.5158 V = 568.35 FPS Q = 335.186 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.71	0.77	1.27	1.28	1.62	0.95	1.03	0.74	0.61	0.53	0.48	0.53	0.40
S18	0.71	0.89	0.16	-0.07	-0.28	-0.68	-0.68	-0.64	-0.60	-0.49	0.36	0.14	-0.38
S27	0.71	0.58	0.25	1.79	1.22	1.07	0.87	0.70	0.60	0.54	0.49	0.44	0.50
S28	0.71	0.88	0.13	-0.12	-0.54	-0.65	-0.72	-0.74	-0.60	-0.53	-0.33	-0.27	-0.25

	35	40	50	60	70	80	90	92	94	96	98	1E0
S17	-0.41	-0.37	-0.29	-0.23	-0.15	-0.06	0.11					
S18	-0.28	-0.18	-0.15	-0.03	-0.05	0.11	0.17	0.16	0.19	0.18	0.19	0.16
S27	-0.46	-0.42	-0.32	-0.22	-0.17	-0.08	0.06					
S28	-0.23	-0.16	-0.15	-0.05	0.05	0.10	0.16	0.17	0.18	0.04	0.04	0.25

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
ORIFICE	644.11	637.99	601.13	599.95	588.66	586.86	78.34	569.88	462.62	564.76	533.43

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE	14.50	14.69	14.82	14.92	15.03	15.14	15.23	15.31	15.36	15.42	15.46	15.47	15.47
RE	14	15	16	17	18	19	20	21	22	23	24	25	
ORIFICE	15.47	15.46	14.31	15.39	15.36	15.33	14.03	15.20	14.71	13.81	14.86	14.86	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 664-11 CONFIGURATION L1C1E1B4PNTTIRIRETP

THETA 3/4 = 50.0 DEG RPM 5506.

H0 = 14.870 PSIA PINF = 12.545 PSIA TSC = 72.16 DEG F RHO = 0.00207 SLUGS/CU FT

M = 0.5154 V = 568.81 FPS Q = 334.796 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.67	-0.68	-1.38	-1.40	-1.72	-0.99	-1.09	-0.78	-0.65	-0.56	-0.51	-0.54	-0.42
S18	0.67	0.92	0.23	0.02	-0.17	-0.55	-0.55	-0.53	-0.50	-0.41	0.34	0.13	-0.26
S27	0.65	-0.56	-0.24	-1.87	-1.28	-1.11	-0.91	-0.73	-0.63	-0.56	-0.51	-0.46	-0.50
S28	0.65	0.90	0.22	-0.05	-0.40	-0.51	-0.58	-0.60	-0.48	-0.41	-0.23	-0.19	-0.18
		35	40	50	60	70	80	90	92	94	96	98	TEO
S17	-0.43	-0.38	-0.31	-0.24	-0.24	-0.16	-0.07	0.11	0.16	0.18	0.18	0.18	-0.15
S18	-0.20	-0.17	-0.14	-0.04	-0.04	0.05	0.10	0.16	0.16	0.18	0.18	0.18	-0.15
S27	-0.48	-0.44	-0.31	-0.24	-0.24	-0.19	-0.09	0.04	0.16	0.18	0.18	0.18	-0.24
S28	-0.17	-0.15	-0.14	-0.05	-0.05	0.05	0.10	0.15	0.16	0.18	0.18	0.18	-0.24

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	621.48	613.10	579.18	577.96	567.00	565.76	65.76	550.10	501.27	547.72	518.93

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.47	14.61	14.73	14.85	14.99	15.06	15.12	15.13	15.15	15.17	15.20	15.21	15.21
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.21	15.20	14.13	15.17	15.16	15.13	13.98	15.03	14.62	13.77	14.87	14.87	

TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 666- 6 CONFIGURATION L1C1E1B3PWT1R1RETP THETA 3/4 = 30.0 DEG RPM 4505.

H0 = 14.897 PSIA PINF = 14.499 PSIA TSC = 61.23 DEG F RHO = 0.00234 SLUGS/CU FT

M = 0.2035 V = 227.17 FPS Q = 60.487 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.68	0.17	-0.03	0.09	0.17	0.59	-0.75	-0.55	-0.39	-0.37	-0.44	-0.30
S1B	0.68	0.75	-0.04	-0.24	-0.43	-0.73	-0.73	-0.70	-0.46	0.37	0.28	-0.37
S2T	0.87	-1.19	-1.15	-1.39	-0.94	-0.81	-0.68	-0.52	-0.41	-0.36	-0.34	-0.42
S2B	0.87	0.91	0.63	0.53	-0.63	-0.73	-0.77	-0.73	-0.51	-0.31	-0.30	-0.28
S1T	-0.32	-0.28	-0.21	-0.16	-0.11	-0.02	0.14					
S1B	-0.28	-0.24	-0.04	0.01	0.08	0.14	0.18	0.18	0.20	0.20	0.20	0.16
S2T	-0.40	-0.35	-0.26	-0.21	-0.14	-0.05	0.07					
S2B	-0.28	-0.21	-0.10	0.01	0.09	0.11	0.18	0.17	0.20	0.24	0.24	0.23

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	259.04	256.79	243.16	243.16	239.32	236.73	24.54	228.80	204.98	226.41	216.43

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.90	14.90	14.90	14.90	14.90	14.98	14.99	14.99	15.00	15.01	15.00	15.00	15.01
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.01	15.02	14.81	15.02	15.02	15.02	14.80	15.01	14.93	14.73	14.89	14.90	



TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 666- 7 CONFIGURATION L1C1E1B3PWT1R1RETP THETA 3/4 = 30.0 DEG RPM 6507.

H0 = 14.897 PSIA PINF = 14.515 PSIA TSC = 61.23 DEG F RHO = 0.00235 SLUGS/CU FT

M = 0.1994 V = 222.65 FPS Q = 58.150 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.89	0.40	0.17	-0.46	-0.54	-0.22	-0.44	-0.26	-0.26	-0.20	-0.41	-0.19
S1B	0.89	0.26	-1.03	-1.34	-1.56	-2.06	-1.93	-1.71	-1.56	-1.16	0.39	-1.42
S2T	0.86	0.95	-0.47	-0.64	-0.55	-0.43	-0.32	-0.24	-0.23	-0.21	-0.17	-0.31
S2B	0.86	0.48	-0.15	-0.42	-2.09	-2.11	-2.02	-1.93	-1.69	-1.15	-1.08	-1.02
	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.20	-0.18	-0.13	-0.08	-0.02	0.03	0.20					
S1B	-1.13	-0.53	-0.06	-0.02	0.09	0.14	0.24	0.22	0.26	0.24	0.22	0.24
S2T	-0.27	-0.23	-0.18	-0.12	-0.07	0.02	0.15					
S2B	-0.96	-0.50	-0.11	-0.02	0.09	0.19	0.22	0.22	0.21	0.26	0.04	0.29

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	322.95	325.85	307.12	305.03	296.80	293.64	42.47	279.55	216.02	272.66	266.21

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	17.13	14.90	12.66	14.90	14.90	15.12	15.14	15.16	15.10	15.20	15.23	15.25	15.27
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.29	15.31	15.01	15.34	15.35	15.37	14.88	15.37	15.26	14.77	14.90	14.90	

TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 666-11 CONFIGURATION LIC1E183PWTIRIRETP THETA 3/4 = 30.0 DEG RPM 5503.

H0 = 14.897 PSIA PINF = 14.504 PSIA TSC = 61.75 DEG F RHO = 0.00234 SLUGS/CU FT

M = 0.2022 V = 225.88 FPS Q = 59.757 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.87	0.41	0.29	0.25	0.18	0.35	0.59	0.39	0.37	0.30	0.26	0.46	0.23
S1B	0.87	0.68	0.33	0.60	0.78	1.20	1.18	1.05	0.93	0.73	0.38	0.33	0.84
S2T	0.91	0.38	0.90	1.09	0.82	0.70	0.57	0.46	0.43	0.34	0.26	0.23	0.36
S2B	0.91	0.79	0.37	0.22	1.17	1.26	1.26	1.24	1.05	0.96	0.71	0.64	0.63
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.25	-0.25	-0.15	-0.10	-0.10	-0.05	0.02	0.19	0.21	0.26	0.26	0.22	0.22
S1B	-0.64	-0.53	-0.05	-0.00	-0.11	0.11	0.15	0.22	0.21	0.26	0.26	0.22	0.22
S2T	-0.32	-0.29	-0.20	-0.09	-0.08	-0.08	-0.01	0.14	0.21	0.24	0.24	0.23	0.28
S2B	-0.57	-0.34	-0.08	-0.01	-0.01	0.10	0.19	0.21	0.21	0.24	0.24	0.23	0.28

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	286.06	284.37	271.98	270.84	266.18	263.84	34.72	251.93	231.03	247.70	240.87

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	23.74	19.32	14.90	19.32	19.32	15.05	15.06	15.07	15.07	15.68	15.11	15.11	15.12
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.13	15.14	14.90	15.15	15.16	15.16	14.84	15.16	15.06	14.74	14.90	14.90	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 34.0 DEG RPM 4504.

RUN - PT NO 667-6 CONFIGURATION L1C1E1B3PWT1R1RETP

HO = 14.899 PSIA PINF = 14.029 PSIA TSC = 65.14 DEG F RHQ = 0.00227 SLUGS/CU FT

M = 0.3043 V = 339.22 FPS Q = 130.766 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.51	-0.98	-1.35	-1.31	-1.57	-1.03	-1.00	-0.73	-0.59	-0.53	-0.48	-0.50	-0.40
S1B	0.51	0.92	0.33	0.14	-0.01	-0.32	-0.34	-0.31	-0.30	-0.24	0.27	0.20	-0.05
S2T	0.50	-0.66	-1.59	-1.78	-1.23	-1.04	-0.85	-0.66	-0.58	-0.53	-0.48	-0.42	-0.55
S2B	0.50	0.90	0.31	0.04	-0.20	-0.30	-0.35	-0.36	-0.26	-0.22	-0.02	-0.03	-0.05
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T		-0.40	-0.36	-0.30	-0.23	-0.15	-0.07	0.09	0.16	0.17	0.17	0.18	0.13
S1B		-0.05	-0.08	-0.08	0.02	0.07	0.11	0.16	0.16	0.17	0.17	0.18	0.13
S2T		-0.51	-0.46	-0.36	-0.27	-0.21	-0.13	-0.02	0.15	0.17	0.18	-0.08	0.18
S2B		-0.05	-0.08	-0.09	-0.02	0.06	0.10	0.13	0.15	0.17	0.18	-0.08	0.18

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
K1	349.98	343.55	326.50	325.53	321.56	322.55	324.84	311.65	277.07	313.15	292.64

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	6.40	10.65	2.15	6.40	10.65	14.93	14.93	14.93	14.93	14.93	14.93	14.92	14.93
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.93	14.92	14.56	14.92	14.92	14.91	14.74	14.91	14.78	14.51	14.90	14.90	

TABLE IX

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 667- 7 CONFIGURATION LICIE183PWTIR1RETP THETA 3/4 = 34.0 DEG RPM 6502.

H0 = 14.908 PSIA PINF = 14.031 PSIA TSC = 65.66 DEG F RHO = 0.00227 SLUGS/CU FT

M = 0.3052 V = 340.37 FPS Q = 131.560 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.79	-0.53	-0.97	-1.00	-1.20	-0.77	-0.76	-0.54	-0.46	-0.40	-0.38	-0.49	-0.31
S1B	0.79	0.76	-0.11	-0.35	-0.54	-0.93	-0.89	-0.82	-0.75	-0.60	0.38	0.23	-0.59
S2T	0.77	-0.89	-1.16	-1.38	-0.96	-0.83	-0.68	-0.53	-0.47	-0.43	-0.38	-0.34	-0.44
S2B	0.77	0.74	-0.14	-0.41	-0.86	-0.94	-0.98	-0.95	-0.80	-0.72	-0.47	-0.44	-0.41
	35	40	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.34	-0.28	-0.23	-0.18	-0.10	-0.10	-0.02	0.13					
S1B	-0.44	-0.26	-0.08	-0.00	-0.07	-0.12	-0.19	0.19	0.19	0.20	0.19	0.20	0.18
S2T	-0.40	-0.36	-0.27	-0.18	-0.13	-0.13	-0.05	0.08					
S2B	-0.40	-0.22	-0.11	-0.02	-0.02	0.07	0.13	0.17	0.19	0.20	0.22	-0.01	0.28

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	409.42	409.13	384.72	384.72	375.48	374.63	24.63	360.70	296.71	357.53	337.77

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	6.47	10.69	6.47	6.47	6.47	6.47	15.10	15.13	15.15	15.17	15.20	15.21	15.23
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.26	15.27	14.78	15.28	15.29	15.30	14.78	15.29	15.12	14.57	14.91	14.91	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 34.0 DEG RPM 5507.

RUN - PT NO 667-11 CONFIGURATION L1C1E1B3PWT1R1RETP

H0 = 14.903 PSIA PINF = 14.039 PSIA TSC = 65.14 DEG F RHO = 0.00227 SLUGS/CU FT

M = 0.3030 V = 337.85 FPS Q = 129.786 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.66	-0.73	-1.14	-1.11	-1.36	-0.88	-0.87	-0.61	-0.53	-0.45	-0.42	-0.49	-0.35
S1B	0.66	0.85	0.13	-0.08	-0.25	-0.60	-0.60	-0.54	-0.49	-0.41	0.31	0.22	-0.28
S2T	0.65	-2.13	-1.35	-1.54	-1.07	-0.91	-0.74	-0.59	-0.51	-0.47	-0.43	-0.37	-0.46
S2B	0.65	0.84	0.10	-0.16	-0.49	-0.58	-0.63	-0.63	-0.53	-0.46	-0.26	-0.24	-0.22

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.35	-0.33	-0.25	-0.18	-0.12	-0.04	0.13	0.17	0.19	0.20	0.19	0.17
S1B	-0.23	-0.17	-0.08	-0.00	0.08	0.12	0.18	0.16	0.19	0.21	-0.02	0.24
S2T	-0.41	-0.39	-0.29	-0.20	-0.19	-0.07	0.06	0.16	0.19	0.21	-0.02	0.24
S2B	-0.22	-0.19	-0.10	-0.02	0.05	0.11	0.15	0.16	0.19	0.21	-0.02	0.24

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	375.84	370.93	353.24	350.53	345.10	342.33	335.04	332.88	307.69	329.38	316.30

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.41	13.51	12.12	13.51	12.12	15.02	15.03	15.05	15.05	15.05	15.06	15.06	15.07
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.09	15.09	14.67	15.09	15.10	15.09	14.68	15.08	14.92	14.54	14.90	14.90	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 35.0 DEG RPM 4507.

RUN - PT NO 668- 6 CONFIGURATION L1C1E1B3PWT1R1RETP

H0 = 14.909 PSIA PINF = 14.522 PSIA TSC = 63.05 DEG F RHD = 0.00234 SLUGS/CU FT

M = 0.2006 V = 224.39 FPS Q = 58.892 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.84	-0.46	-0.83	-1.05	-0.55	-0.57	-0.41	-0.37	-0.32	-0.30	-0.44	-0.24
S1B	0.84	0.69	-0.26	-0.61	-0.97	-0.94	-0.86	-0.79	-0.63	0.37	0.30	-0.66
S2T	0.82	-1.51	-0.92	-1.14	-0.68	-0.55	-0.42	-0.36	-0.33	-0.29	-0.25	-0.38
S2B	0.82	0.67	-0.24	-0.59	-1.05	-1.07	-1.05	-0.87	-0.80	-0.53	-0.49	-0.46
	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.26	-0.23	-0.17	-0.12	-0.06	0.01	0.16	0.21	0.23	0.21	0.23	-0.19
S1B	-0.50	-0.24	-0.05	0.02	0.08	0.15	0.21	0.21	0.23	0.21	0.23	-0.19
S2T	-0.32	-0.29	-0.22	-0.14	-0.11	-0.02	0.12	0.22	0.23	0.23	0.02	0.27
S2B	-0.44	-0.22	-0.10	-0.00	0.09	0.16	0.20	0.22	0.23	0.23	0.02	0.27

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	273.11	271.17	255.85	255.85	249.68	249.68	42.56	239.58	232.50	236.43	230.64

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.91	14.91	14.91	14.91	14.91	15.00	15.02	15.02	15.03	15.05	15.06	15.06	15.08
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.08	15.09	14.87	15.11	15.11	15.11	14.86	15.11	15.03	14.76	14.91	14.91	

TABLE IX

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 668- 7 CONFIGURATION LIC1E1B3PWTIR1RETP THETA 3/4 = 35.0 DEG RPM 6503.

HC = 14.908 PSIA PINF = 14.492 PSIA TSC = 63.05 DEG F RHO = 0.00234 SLUGS/CU FT

M = 0.2082 V = 232.76 FPS Q = 63.270 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.95	0.56	0.13	-0.56	-0.64	-0.39	-0.24	-0.19	0.19	0.19	0.38	0.18
S18	0.95	0.13	-1.33	-1.65	-1.91	-2.47	-2.04	-1.86	-1.42	0.43	0.33	-1.71
S27	0.83	-2.08	-0.37	-0.54	-0.47	-0.41	-0.23	-0.23	-0.20	0.18	0.15	0.26
S28	0.83	0.50	-0.54	-0.81	-2.53	-2.51	-2.26	-1.98	-1.84	-1.41	-1.34	-1.21

	35	40	50	60	70	80	90	92	94	96	98	FE0
S17	-0.19	-0.16	-0.13	-0.08	-0.01	0.05	0.18					
S18	-1.24	-0.47	-0.12	-0.02	0.08	0.14	0.25	0.23	0.25	0.23	0.25	0.23
S27	-0.24	-0.22	-0.21	-0.14	-0.04	0.01	0.04					
S28	-1.06	-0.43	-0.14	-0.06	0.10	0.16	0.22	0.23	0.22	0.25	0.04	0.30

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	356.03	361.34	339.60	338.67	327.31	326.35	42.53	309.57	249.37	301.24	295.20

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.91	14.91	14.91	14.91	14.91	14.91	15.17	15.20	15.22	15.24	15.27	15.31	15.39

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.42	15.45	15.10	15.51	15.53	15.55	14.94	15.54	15.43	14.78	14.91	14.90

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 668-11 CONFIGURATION LIC1E1B3PWT1R1RETP THETA 3/4 = 35.0 DEG RPM 5505.

H0 = 14.908 PSIA PINF = 14.529 PSIA TSC = 63.05 DEG F RHO = 0.00234 SLUGS/CU FT

M = 0.1586 V = 222.12 FPS Q = 57.722 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.91	0.51	0.48	0.46	0.50	0.46	0.45	0.25	0.25	0.19	0.17	0.40	0.16
S18	0.91	0.44	0.73	-1.05	-1.23	-1.70	-1.64	-1.42	-1.31	-0.98	0.40	0.34	-1.19
S27	0.93	0.63	0.58	0.71	0.59	0.44	0.33	0.26	0.24	0.22	0.18	0.14	0.00
S28	0.93	0.71	0.36	0.10	-1.66	-1.73	-1.66	-1.58	-1.36	-1.25	-0.94	-0.87	-0.87
	35	40	40	50	60	70	80	90	92	94	96	98	TEO
S17	-0.19	-0.17	-0.17	-0.10	-0.07	0.01	0.06	0.21					
S18	-0.94	-0.32	-0.06	0.00	0.00	0.11	0.17	0.27	0.25	0.27	0.25	0.25	0.27
S27	-0.26	-0.24	-0.17	-0.12	-0.12	-0.06	0.03	0.16					
S28	-0.78	-0.34	-0.10	-0.10	-0.00	0.09	0.16	0.20	0.20	0.24	0.24	0.05	0.29

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	305.23	307.67	288.86	287.77	281.15	278.93	42.55	267.56	251.66	260.10	257.15

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	7.00	3.05	7.00	3.05	7.00	15.09	15.10	15.11	15.14	15.15	15.17	15.20	15.22
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.24	15.25	14.98	15.27	15.28	15.30	14.90	15.30	15.19	14.77	14.91	14.91	



TABLE IX

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 669-6 CONFIGURATION LICIE1B3PWTTIRIRETP THETA 3/4 = 38.0 DEG RPM 4501.

H0 = 14.916 PSIA PINF = 14.041 PSIA TSC = 67.74 DEG F RHD = 0.00226 SLUGS/CU FT

M = 0.3049 V = 340.77 FPS Q = 131.438 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
SIT	0.60	-0.65	-0.99	-0.98	-1.11	-0.54	-0.93	-0.67	-0.56	-0.48	-0.44	-0.49	-0.37
S1B	0.60	0.87	0.22	0.02	-0.14	-0.47	-0.48	-0.45	-0.41	-0.35	0.29	0.20	-0.16
S2T	0.68	0.96	-1.47	-1.68	-1.14	-0.98	-0.80	-0.63	-0.56	-0.51	-0.46	-0.41	-0.48
S2B	0.68	0.95	0.34	0.10	-0.35	-0.43	-0.50	-0.51	-0.41	-0.35	-0.17	-0.16	-0.14
		35	40	50	60	70	80	90	92	94	96	98	TE0
SIT		-0.38	-0.34	-0.27	-0.21	-0.15	-0.05	0.11					
S1B		-0.15	-0.12	-0.08	-0.00	0.06	0.11	0.17	0.17	0.18	0.18	0.18	0.15
S2T		-0.46	-0.40	-0.30	-0.20	-0.16	-0.08	0.04					
S2B		-0.14	-0.13	-0.09	-0.02	0.06	0.10	0.15	0.16	0.16	0.20	0.04	0.22

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	367.14	359.85	342.61	341.68	334.28	334.28	49.30	323.68	279.63	326.33	305.88

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.92	14.92	14.92	14.92	14.92	14.92	14.99	15.00	15.01	15.01	15.01	15.01	15.02
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.02	15.03	14.63	15.03	15.03	15.03	14.73	15.02	14.88	14.54	14.92	14.92	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 669-7 CONFIGURATION LIC1E1B3PWT1R1RETP THETA 3/4 = 38.0 DEG RPM 6498.

HQ = 14.916 PSIA PINF = 14.044 PSIA TSC = 68.91 DEG F RHO = 0.00226 SLUGS/CU FT

M = 0.3045 V = 340.67 FPS Q = 131.085 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.85	0.36	-0.83	-0.90	-1.07	-0.64	-0.64	-0.44	-0.39	-0.34	-0.33	-0.50	-0.28
S1B	0.85	0.68	-0.32	-0.58	-0.79	-1.23	-1.22	-1.06	-0.97	-0.76	0.41	0.24	-0.83
S2T	0.84	-0.42	-0.98	-1.20	-0.83	-0.73	-0.59	-0.45	-0.41	-0.37	-0.33	-0.29	-0.39
S2B	0.84	0.62	-0.36	-0.67	-1.13	-1.22	-1.23	-1.17	-1.00	-0.91	-0.65	-0.61	-0.54
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.30	-0.25	-0.19	-0.15	-0.08	-0.01	0.15	0.21	0.20	0.22	0.21	0.21	0.20
S1B	-0.36	-0.23	-0.09	-0.00	0.08	0.13	0.21	0.21	0.20	0.22	0.21	0.21	0.20
S2T	-0.36	-0.32	-0.26	-0.15	-0.10	-0.02	0.09	0.19	0.20	0.21	0.23	0.01	0.29
S2B	-0.49	-0.19	-0.10	-0.01	0.10	0.14	0.14	0.19	0.20	0.21	0.23	0.01	0.29

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	432.98	434.50	408.06	408.06	396.80	395.98	55.27	379.26	310.30	374.66	359.59

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	11.16	7.40	11.16	11.16	11.16	11.16	15.15	15.19	15.22	15.23	15.27	15.29	15.32
		15	16	17	18	19	20	21	22	23	24	25	
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.38	15.41	14.90	15.48	15.50	15.52	14.73	15.51	15.32	14.60	14.92	14.92	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 669-11 CONFIGURATION LICIE183PMTIIR1RETP THETA 3/4 = 38.0 DEG RPM 5499.

H0 = 14.917 PSIA PINF = 14.040 PSIA TSC = 69.04 DEG F RHO = 0.00226 SLUGS/CU FT

M = 0.3053 V = 341.57 FPS Q = 131.722 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LE0	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.74	0.63	1.05	1.06	1.27	0.83	0.82	0.58	0.49	0.42	0.39	0.32
S18	0.74	0.82	0.02	0.21	0.39	0.76	0.74	0.68	0.62	0.49	0.36	0.43
S21	0.72	2.99	1.25	1.46	1.00	0.86	0.71	0.55	0.48	0.45	0.40	0.45
S28	0.72	0.79	0.02	0.30	0.66	0.74	0.79	0.79	0.65	0.59	0.38	0.31

	35	40	50	60	70	80	90	92	94	96	98	100
S17	-0.35	-0.30	-0.23	-0.18	-0.10	-0.03	0.13					
S18	-0.33	-0.19	-0.08	0.00	0.08	0.13	0.20	0.18	0.20	0.20	0.20	0.18
S21	-0.40	-0.35	-0.27	-0.17	-0.13	-0.05	0.05					
S28	-0.29	-0.17	-0.11	-0.02	0.07	0.12	0.17	0.18	0.19	0.21	0.21	0.26

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	394.28	391.80	369.73	368.85	361.01	360.92	49.42	348.25	328.21	348.82	332.21

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
R1	14.82	14.87	14.88	14.93	14.99	15.07	15.09	15.09	15.11	15.13	15.14	15.15	15.16
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.17	15.19	14.74	15.20	15.20	15.22	14.62	15.21	15.05	14.57	14.92	14.92	

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TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FL TEST SECTION

## PRESSURE DATA

RUN - PT NO 670-6 CONFIGURATION 1JC1E183PW11R1R1P THEIA 3/4 = 42.0 DEG RPM 4500.

HQ = 14.897 PSIA PINE = 13.357 PSIA ISC = 75.55 DEG F RHO = 0.00215 SLUGS/CU.FT

M = 0.4110 V = 459.30 FPS Q = 226.968 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.57	-0.93	-1.31	-1.54	-0.74	-0.99	-0.71	-0.59	-0.51	-0.46	-0.48	-0.37
S1B	0.57	0.93	0.18	0.03	-0.29	-0.32	-0.28	-0.27	-0.21	0.31	0.19	-0.03
S2T	0.55	-1.29	-1.38	-1.75	-1.05	-0.86	-0.67	-0.57	-0.52	-0.46	-0.41	-0.49
S2B	0.55	0.92	0.35	0.12	-0.18	-0.27	-0.33	-0.35	-0.21	-0.04	-0.02	-0.02

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.38	-0.34	-0.26	-0.20	-0.12	-0.03	0.13					
S1B	-0.04	-0.05	-0.06	0.03	0.10	0.14	0.19	0.19	0.20	0.20	0.21	0.17
S2T	-0.44	-0.41	-0.31	-0.21	-0.17	-0.08	0.05					
S2B	-0.03	-0.05	-0.08	0.01	0.07	0.12	0.16	0.17	0.19	0.23	0.01	0.23

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	466.48	458.79	434.93	432.62	427.21	424.88	419.38	417.00	348.57	418.59	424.84

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.43	14.63	14.78	14.89	14.94	14.94	14.94	14.94	14.93	14.94	14.94	14.95	14.95
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.95	14.94	14.34	14.93	14.93	14.93	14.93	14.17	14.92	14.72	14.22	14.90	14.90

TABLE IX

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FI TEST SECTION

## PRESSURE DATA

RUN - PT NO 670-7 CONFIGURATION LICIEIB3PWIIIRIETP

THEIA 3/4 = 42.0 DEG RPM 6498.

HO = 14.898 PSIA PINE = 13.363 PSIA ISC = 77.37 DEG F RHQ = 0.00215 SLUGS/CU FT

M = 0.4104 V = 459.40 FPS Q = 226.374 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.76	-0.19	-1.02	-1.26	-0.78	-0.81	-0.56	-0.46	-0.40	-0.37	-0.47	-0.30
S1B	0.76	0.82	0.04	-0.21	-0.41	-0.73	-0.71	-0.67	-0.52	0.40	0.19	-0.30
S2T	0.76	-0.86	-1.37	-1.42	-0.98	-0.89	-0.70	-0.54	-0.46	-0.38	-0.33	-0.46
S2B	0.76	0.80	-0.00	-0.29	-0.69	-0.79	-0.82	-0.68	-0.60	-0.39	-0.34	-0.30

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.32	-0.28	-0.21	-0.16	-0.09	-0.01	0.16	0.21	0.21	0.22	0.22	0.20
S1B	-0.33	-0.17	-0.07	0.01	0.09	0.14	0.21	0.20	0.21	0.22	0.22	0.20
S2T	-0.36	-0.34	-0.24	-0.16	-0.11	-0.03	0.09	0.20	0.20	0.23	0.01	0.29
S2B	-0.27	-0.14	-0.09	-0.00	0.09	0.13	0.20	0.20	0.21	0.23	0.01	0.29

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	530.15	529.54	499.48	498.12	486.44	482.94	472.30	470.15	383.74	468.13	482.10

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.68	14.77	14.84	14.93	15.03	15.09	15.15	15.17	15.20	15.23	15.26	15.30	15.32
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.35	15.38	14.65	15.43	15.45	15.47	14.33	15.46	15.19	14.31	14.90	14.90	

TABLE IX

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FI TEST SECTION

## PRESSURE DATA

RUN - PT NO 670-11 CONFIGURATION L1C1E1B3PWTIR1REIP THEIA 3/4 = 42.0 DEG RPM 5499.

HO = 14.897 PSIA PINF = 13.357 PSIA TSC = 78.28 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4111 V = 460.55 FPS Q = 227.035 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.68	0.31	-1.18	-1.17	-1.42	-0.65	-0.90	-0.63	-0.53	-0.45	-0.41	-0.48	-0.34
S1B	0.68	0.89	0.22	-0.00	-0.16	-0.50	-0.52	-0.46	-0.43	-0.35	0.36	0.18	-0.21
S2T	0.65	-1.08	-1.35	-1.59	-1.10	-0.98	-0.79	-0.61	-0.52	-0.47	-0.43	-0.37	-0.46
S2B	0.65	0.87	0.19	-0.06	-0.38	-0.48	-0.53	-0.53	-0.43	-0.37	-0.19	-0.15	-0.14

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.35	-0.31	-0.23	-0.18	-0.10	-0.02	0.14					
S1B	-0.17	-0.12	-0.07	0.02	0.10	0.15	0.20	0.20	0.21	0.21	0.22	0.18
S2T	-0.41	-0.38	-0.29	-0.19	-0.15	-0.06	0.06					
S2B	-0.14	-0.11	-0.08	0.01	0.08	0.14	0.18	0.19	0.22	0.25	0.00	0.26

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	495.49	491.30	464.29	463.56	454.09	450.37	445.04	440.49	412.15	441.04	455.78

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.58	14.68	14.80	14.91	15.00	15.03	15.05	15.06	15.08	15.09	15.10	15.11	15.12
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.14	15.14	14.47	15.15	15.15	15.15	14.22	15.15	14.89	14.26	14.90	14.90	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT. TEST SECTION

## PRESSURE DATA

RUN - PT NO 671-6 CONFIGURATION L1C1E1B3PHT11R1REIP THETA 3/4 = 46.0 DEG RPM 4499.

HO = 14.839 PSIA PINE = 13.341 PSIA ISC = 79.32 DEG F RHQ = 0.00213 SLUGS/CU FT

M = 0.4122 V = 462.19 FPS Q = 227.997 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
S1T	0.61	-0.05	-1.29	-1.27	-1.51	-0.55	-0.98	-0.69	-0.58	-0.50	-0.45	-0.48	-0.37																	
S1B	0.61	0.92	0.31	0.13	-0.04	-0.36	-0.38	-0.35	-0.33	-0.27	-0.33	-0.17	-0.08																	
S2T	0.58	-1.23	-1.18	-1.73	-1.19	-1.01	-0.82	-0.64	-0.56	-0.50	-0.45	-0.39	-0.44																	
S2B	0.58	0.91	0.29	0.06	-0.23	-0.34	-0.39	-0.40	-0.31	-0.27	-0.10	-0.07	-0.07																	

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.37	-0.33	-0.26	-0.20	-0.12	-0.04	0.12					
S1B	-0.08	-0.07	-0.07	0.02	0.09	0.13	0.19	0.19	0.20	0.20	0.21	0.17
S2T	-0.44	-0.37	-0.31	-0.21	-0.16	-0.07	0.05					
S2B	-0.07	-0.06	-0.08	0.00	0.07	0.12	0.17	0.18	0.19	0.41	-0.01	0.25

## INLET VELOCITIES, FPS

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
GRIFICE	479.25	473.80	449.44	448.69	428.80	438.80	431.15	429.59	393.45	428.29	441.13																			
R1																														

## EXIT RAKE PRESSURES, PSIA

GRIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.48	14.62	14.77	14.89	14.94	14.96	14.96	14.97	14.97	14.98	14.98	14.98	14.99
GRIFICE	14	15	16	17	18	19	20	21	22	23	24	25	26
RE	14.99	14.99	14.99	15.00	15.00	15.00	14.99	14.20	14.99	14.75	14.21	14.89	14.89

GRIFICE  
RE

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TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 671-7 CONFIGURATION LICIEIB3PHIIRIREIP 0 THEIA 3/4 = 46.0 DEG RPM 6502.

HQ = 14.890 PSIA PINE = 13.350 PSIA ISC = 79.45 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4111 V = 461.13 FPS Q = 227.001 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.80	-0.07	-0.91	-0.96	-1.16	-0.46	-0.77	-0.45	-0.40	-0.35	-0.45	-0.26
S1B	0.80	-0.07	-0.30	-0.51	-0.92	-0.90	-0.82	-0.76	-0.58	0.41	0.19	-0.57
S2T	0.79	-0.78	-1.16	-1.39	-0.99	-0.84	-0.67	-0.52	-0.41	-0.34	-0.31	-0.37
S2B	0.79	0.80	-0.08	-0.35	-0.82	-0.91	-0.94	-0.77	-0.69	-0.48	-0.41	-0.35

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.32	-0.28	-0.21	-0.15	-0.08	-0.01	0.16					
S1B	-0.40	-0.17	-0.08	0.01	0.09	0.14	0.21	0.21	0.22	0.25	0.25	0.21
S2T	-0.37	-0.34	-0.25	-0.16	-0.12	-0.03	0.10					
S2B	-0.27	-0.10	-0.09	-0.01	0.13	0.19	0.21	0.21	0.22	0.37	0.05	0.29

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	545.65	547.83	518.04	516.70	503.07	500.32	490.93	486.72	416.51	481.18	500.70

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.73	14.85	14.87	14.94	15.01	15.08	15.17	15.20	15.21	15.28	15.33	15.37	15.42
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.47	15.53	14.74	15.58	15.60	15.61	14.38	15.58	15.26	14.31	14.89	14.89	



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## TABLE IX

HSD, SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 671-12 CONFIGURATION 11C1E1B3PW11R1REIP 0 THEIA 3/4 = 46.0 DEG RPM 5495.

HQ = 14.888 PSIA PINF = 13.355 PSIA ISC = 79.84 DEG F RHD = 0.00213 SLUGS/CU FT

M = 0.4101 V = 460.21 FPS Q = 225.992 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.69	-0.14	-1.14	-1.13	-1.39	-0.50	-0.89	-0.63	-0.52	-0.46	-0.41	-0.46	-0.34
S1B	0.69	0.88	0.16	-0.05	-0.24	-0.60	-0.59	-0.54	-0.52	-0.41	0.37	0.17	-0.29
S2T	0.67	-1.04	-1.20	-1.61	-1.09	-0.95	-0.77	-0.59	-0.52	-0.47	-0.42	-0.37	-0.49
S2B	0.67	0.85	0.14	-0.13	-0.40	-0.58	-0.63	-0.63	-0.51	-0.45	-0.25	-0.22	-0.21

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.35	-0.31	-0.24	-0.18	-0.11	-0.02	0.14	0.19	0.20	0.20	0.21	0.19
S1B	-0.22	-0.12	-0.08	0.01	0.09	0.13	0.20	0.19	0.20	0.20	0.21	0.19
S2T	-0.45	-0.41	-0.32	-0.22	-0.17	-0.08	0.05	0.19	0.21	0.42	-0.00	0.24
S2B	-0.19	-0.11	-0.09	-0.00	0.09	0.13	0.18	0.19	0.21	0.42	-0.00	0.24

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	505.89	501.23	475.54	475.54	465.47	463.27	454.39	453.64	433.98	449.23	467.82

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.61	14.69	14.79	14.90	14.98	15.03	15.06	15.08	15.09	15.11	15.14	15.15	15.16
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.18	15.19	14.50	15.20	15.22	15.23	14.19	15.23	14.96	14.26	14.89	14.89	

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## TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 672-6 CONFIGURATION IJCIEB3PWITIRIRIP 0 THEIA 3/4 = 46.0 DEG RPM 5000.

HO = 14.879 PSIA PINF = 12.562 PSIA ISC = 85.18 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5141 V = 574.38 FEES Q = 333.620 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.59	-0.33	-1.49	-1.72	-0.66	-1.20	-0.84	-0.71	-0.61	-0.54	-0.54	-0.44
S1B	0.59	0.96	0.37	0.19	-0.32	-0.35	-0.33	-0.31	-0.26	0.33	0.10	-0.06
S2T	0.60	-1.36	-0.11	-1.98	-1.40	-0.96	-0.78	-0.67	-0.61	-0.55	-0.48	-0.37
S2B	0.60	0.94	0.35	0.12	-0.19	-0.37	-0.39	-0.30	-0.25	-0.09	-0.05	-0.05

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.44	-0.40	-0.32	-0.25	-0.16	-0.08	0.11					
S1B	-0.08	-0.10	-0.12	-0.02	0.06	0.11	0.17	0.16	0.17	0.18	0.18	0.14
S2T	-0.50	-0.47	-0.36	-0.26	-0.21	-0.11	0.02					
S2B	-0.08	-0.08	-0.14	-0.03	0.04	0.10	0.12	0.15	0.16	0.72	-0.06	0.22

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	584.94	577.86	548.92	546.54	538.32	536.35	530.41	526.42	475.80	530.41	539.58

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.09	14.43	14.66	14.86	14.92	14.91	14.91	14.91	14.92	14.91	14.91	14.91	14.90
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.91	14.88	13.97	14.88	14.87	14.88	13.59	14.87	14.58	13.70	14.88	14.88	

TABLE IX

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT. TEST SECTION

PRESSURE DATA

RUN - PT NO 672- 7 CONFIGURATION LIC1E1B3PW1IR1REIP 0 THEIA 3/4 = 46.0 DEG RPM 6492.

NO = 14.880 PSIA PINF = 12.566 PSIA ISC = 85.18 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5138 V = 574.06 FPS Q = 333.316 PSF PSI = 0. DEG

SHROUD PRESSURE COEFFICIENTS

	1E0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.69	-0.37	-1.33	-1.33	-1.64	-0.65	-1.05	-0.76	-0.63	-0.54	-0.49	-0.53	-0.41
S1B	0.69	0.91	0.22	-0.00	-0.20	-0.59	-0.61	-0.56	-0.53	-0.43	0.37	0.12	-0.28
S2T	0.61	-1.14	-0.11	-1.97	-1.25	-1.08	-0.87	-0.70	-0.61	-0.55	-0.50	-0.45	-0.37
S2B	0.61	0.89	0.18	-0.06	-0.45	-0.57	-0.63	-0.65	-0.53	-0.46	-0.28	-0.22	-0.20

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.41	-0.37	-0.30	-0.23	-0.14	-0.06	0.12	0.17	0.19	0.19	0.19	0.16
S1B	-0.24	-0.16	-0.13	-0.03	0.06	0.11	0.18	0.17	0.19	0.19	0.19	0.16
S2T	-0.52	-0.48	-0.38	-0.28	-0.23	-0.12	0.01	0.16	0.19	0.72	-0.08	0.21
S2B	-0.20	-0.15	-0.13	-0.03	0.05	0.10	0.16	0.16	0.19	0.72	-0.08	0.21

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	630.28	627.90	592.72	592.11	583.78	578.82	567.21	565.94	491.90	562.64	579.33

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.34	14.52	14.69	14.88	15.02	15.10	15.12	15.16	15.19	15.20	15.23	15.24	15.25
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.29	15.30	14.25	15.29	15.29	15.30	13.72	15.25	14.83	13.80	14.88	14.88	

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## TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 672-11 CONFIGURATION 11C1E1B3PW11R1R1P 0 THETA 3/4 = 46.0 DEG RPM 5499.

MO = 14.879 PSIA PINE = 12.562 PSIA ISC = 85.57 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5141 V = 574.58 FPS Q = 333.620 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.63	-0.36	-1.42	-1.43	-1.71	-0.67	-1.12	-0.81	-0.68	-0.58	-0.52	-0.52	-0.42
S1B	0.63	0.94	0.33	0.13	-0.07	-0.42	-0.43	-0.41	-0.38	-0.32	0.34	0.11	-0.13
S2T	0.60	-1.29	-0.10	-1.94	-1.35	-1.14	-0.93	-0.75	-0.65	-0.58	-0.53	-0.47	-0.23
S2B	0.60	0.93	0.30	0.06	-0.26	-0.38	-0.44	-0.47	-0.37	-0.31	-0.15	-0.11	-0.10

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.43	-0.39	-0.30	-0.24	-0.16	-0.06	0.11	0.17	0.16	0.17	0.18	0.15
S1B	-0.13	-0.13	-0.13	-0.02	0.06	0.11	0.17	0.17	0.16	0.17	0.18	0.15
S2T	-0.50	-0.45	-0.36	-0.26	-0.20	-0.10	0.03	0.15	0.15	0.18	0.73	-0.06
S2B	-0.10	-0.11	-0.13	-0.03	0.05	0.09	0.15	0.15	0.18	0.73	-0.06	0.22

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RE	597.91	593.15	563.18	557.45	550.39	548.45	540.19	537.56	509.64	539.74	553.77

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.16	14.44	14.67	14.87	14.96	14.96	14.96	14.98	15.00	14.98	15.00	15.00	15.01

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.01	15.02	14.04	15.00	15.00	15.00	13.59	14.98	14.65	13.74	14.87	14.88

TABLE IX E330590 - 1

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 673- 6 CONFIGURATION LICIE183PWITIRIEP 0 THETA 3/4 = 50.0 DEG RPM 4501.

HQ = 14.874 PSIA PINE = 12.553 PSIA ISC = 86.87 DEG F RHO = 0.00201 SLUGS/CU FT

M = 0.5148 V = 576.01 FPS Q = 334.246 PSF PSI = 0. DEG

SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.60	-0.48	-1.50	-1.47	-1.66	-0.85	-1.12	-0.79	-0.67	-0.57	-0.54	-0.45	-0.43
S18	0.60	0.95	0.35	0.15	-0.03	-0.36	-0.39	-0.37	-0.35	-0.29	0.33	0.10	-0.09
S27	0.77	-1.32	0.47	-1.90	-1.37	-1.15	-0.95	-0.77	-0.66	-0.59	-0.53	-0.48	-0.18
S28	0.77	0.93	0.31	0.06	-0.23	-0.34	-0.41	-0.43	-0.33	-0.28	-0.11	-0.08	-0.08

	35	40	50	60	70	80	90	92	94	96	98	TEO
S17	-0.43	-0.39	-0.30	-0.25	-0.16	-0.07	0.11					
S18	-0.11	-0.10	-0.12	-0.02	0.06	0.10	0.16	0.15	0.17	0.17	0.17	0.14
S27	-0.50	-0.41	-0.38	-0.28	-0.22	-0.12	0.02					
S28	-0.09	-0.09	-0.12	-0.03	0.05	0.10	0.15	0.16	0.18	0.86	-0.06	0.21

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	595.38	587.43	557.38	557.38	548.87	547.57	537.07	533.76	484.89	533.45	548.32

EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.14	14.41	14.65	14.85	14.93	14.93	14.93	14.94	14.94	14.94	14.94	14.95	14.95
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.95	14.94	14.00	14.93	14.93	14.93	14.92	13.60	14.91	14.61	13.72	14.87	14.87

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TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 673-7 CONFIGURATION L1C1E1B3PW11R1RE1P 0 THEIA 3/4 = 50.0 DEG RPM 6494.

HO = 14.874 PSIA PINF = 12.557 PSIA ISC = 87.65 DEG F RHO = 0.00201 SLUGS/CU FT

M = 0.5143 V = 575.87 FPS Q = 333.706 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.74	-0.60	-1.27	-1.28	-1.46	-0.89	-1.02	-0.70	-0.60	-0.51	-0.46	-0.40	-0.39
S1B	0.74	0.89	0.13	-0.10	-0.31	-0.72	-0.73	-0.67	-0.64	-0.52	0.41	0.13	-0.40
S2T	0.78	-1.02	0.47	-1.89	-1.20	-1.04	-0.85	-0.67	-0.58	-0.53	-0.46	-0.45	-0.10
S2B	0.78	0.86	0.10	-0.16	-0.58	-0.71	-0.77	-0.78	-0.65	-0.57	-0.37	-0.29	-0.27

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.40	-0.36	-0.27	-0.23	-0.15	-0.06	0.11					
S1B	-0.29	-0.16	-0.14	-0.04	0.06	0.11	0.17	0.18	0.17	0.17	0.17	0.14
S2T	-0.48	-0.44	-0.34	-0.24	-0.19	-0.09	0.04					
S2B	-0.25	-0.15	-0.16	-0.05	0.05	0.11	0.16	0.17	0.19	0.85	-0.05	0.26

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	652.58	651.07	609.52	614.88	603.02	597.58	587.82	585.37	507.82	583.37	591.56

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.43	14.56	14.68	14.82	14.95	15.10	15.19	15.24	15.29	15.35	15.40	15.42	15.42
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.43	15.44	14.38	15.48	15.46	15.49	13.85	15.44	14.97	13.85	14.88	14.88	

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## TABLE IX

## HSD. SHROUDED. PROPELLER TEST

## PHASE I - 8 FT. TEST SECTION

## PRESSURE DATA

RUN - PT NO 673-11 CONFIGURATION LICIE183PWITIRIRETP 0 THEIA 3/4 = 50.0 DEG RPM 5499.

MO = 14.880 PSIA PINE = 12.565 PSIA TSC = 88.30 DEG F RHO = 0.00201 SLUGS/CU. FT

M = 0.5139 V = 575.82 FPS Q = 333.440 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.68	-0.80	-1.35	-1.34	-1.55	-1.01	-1.06	-0.75	-0.64	-0.54	-0.48	-0.42	-0.40
S1B	0.68	0.92	0.23	0.01	-0.18	-0.56	-0.58	-0.54	-0.51	-0.42	0.37	0.12	-0.26
S2T	0.78	-1.17	0.48	-1.86	-1.27	-1.08	-0.88	-0.70	-0.61	-0.55	-0.50	-0.44	0.03
S2B	0.78	0.90	0.20	-0.05	-0.42	-0.53	-0.59	-0.62	-0.49	-0.43	-0.25	-0.20	-0.18

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.42	-0.37	-0.28	-0.23	-0.15	-0.06	0.12	0.16	0.18	0.18	0.18	0.15
S1B	-0.22	-0.16	-0.13	-0.03	0.06	0.11	0.17	0.16	0.18	0.18	0.18	0.15
S2T	-0.48	-0.44	-0.34	-0.24	-0.18	-0.09	0.04	0.15	0.16	0.17	0.86	-0.03
S2B	-0.18	-0.14	-0.13	-0.04	0.05	0.11	0.15	0.16	0.17	0.86	-0.03	0.24

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	625.06	622.51	589.03	585.32	576.51	574.00	563.35	559.52	535.11	560.44	579.09

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.34	14.50	14.68	14.84	14.97	15.04	15.07	15.09	15.11	15.13	15.15	15.16	15.17

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.19	15.20	14.17	15.20	15.20	15.22	13.70	15.21	14.82	13.76	14.88	14.88

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 674-6 CONFIGURATION L1C1E1B3PW11R1R1P Q THEIA 3/4 = 50.0 DEG RPM 5251.

HQ = 14.877 PSIA PINF = 11.697 PSIA ISC = 100.53 DEG F RHO = 0.00187 SLUGS/CU FT

N = 0.6160 V = 690.36 FPS Q = 445.457 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	1E0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.67	-0.91	-1.46	-1.46	-1.46	-0.90	-1.41	-0.97	-0.82	-0.70	-0.59	-0.50	-0.50
S1B	0.67	0.97	0.41	0.20	-0.01	-0.38	-0.42	-0.41	-0.40	-0.34	0.28	0.06	-0.14
S2T	0.87	-1.09	0.75	-0.95	-1.45	-1.22	-1.25	-1.14	-0.95	-0.79	-0.66	-0.52	0.41
S2B	0.87	0.95	0.34	0.09	-0.24	-0.37	-0.45	-0.49	-0.39	-0.36	-0.18	-0.12	-0.08

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.48	-0.44	-0.10	-0.28	-0.18	-0.08	0.09					
S1B	-0.16	-0.17	-0.22	-0.07	0.01	0.07	0.13	0.12	0.14	0.14	0.13	0.10
S2T	-0.49	-0.46	-0.37	-0.27	-0.21	-0.11	0.01					
S2B	-0.14	-0.16	-0.20	-0.10	-0.00	0.06	0.10	0.11	0.13	0.95	-0.08	0.19

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	711.51	703.04	667.53	663.48	656.25	653.33	644.04	641.08	557.62	644.26	654.21

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.71	14.15	14.53	14.81	14.92	14.93	14.93	14.93	14.93	14.92	14.93	14.93	14.92
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.93	14.92	13.60	14.90	14.90	14.90	13.19	14.88	14.40	13.00	13.80	14.54	



E330590 -1

## TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT. TEST SECTION

## PRESSURE DATA

RUN - PT NO 674-7 CONFIGURATION LICIE183PWIIIRIETP 0 THETA 3/4 = 50.0 DEG RPM 6496.

MO = 14.874 PSIA PINE = 11.676 PSIA ISC = 102.09 DEG F RHO = 0.00186 SLUGS/CU FT

M = 0.6181 V = 693.51 FPS Q = 547.673 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.71	-1.01	-1.42	-1.44	-0.96	-1.36	-0.96	-0.80	-0.66	-0.57	-0.49	-0.50
S1B	0.71	0.95	0.37	0.14	-0.09	-0.53	-0.52	-0.49	-0.41	0.32	0.05	-0.26
S2T	0.88	-1.02	0.76	-0.92	-1.41	-1.18	-1.09	-0.89	-0.74	-0.62	-0.51	0.45
S2B	0.88	0.94	0.29	0.05	-0.33	-0.56	-0.61	-0.50	-0.45	-0.28	-0.19	-0.07

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.48	-0.44	-0.09	-0.28	-0.18	-0.08	0.10					
S1B	-0.22	-0.19	-0.20	-0.09	0.01	0.07	0.13	0.12	0.14	0.14	0.14	0.11
S2T	-0.47	-0.46	-0.36	-0.27	-0.20	-0.11	0.02					
S2B	-0.19	-0.18	-0.21	-0.10	-0.01	0.06	0.11	0.12	0.15	0.96	-0.08	0.20

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	739.73	732.07	692.26	687.74	677.04	672.45	664.37	660.31	584.91	662.29	677.32

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.91	14.25	14.55	14.86	15.03	15.08	15.09	15.10	15.11	15.11	15.13	15.14	15.14
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.15	15.15	13.74	15.11	15.11	15.10	13.32	15.11	14.53	13.03	13.92	14.67	

TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 674-11 CONFIGURATION 11C1E1B3PW11R18IP 0 THEIA 3/4 = 50.0 DEG RPM 5491.

MO = 14.874 PSIA PINE = 11.697 PSIA TSC = 102.48 DEG F RHO = 0.00186 SLUGS/CU FT

M = 0.6157 V = 691.30 FPS Q = 445.075 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.68	-1.04	-1.46	-1.46	-1.46	-1.00	-1.35	-0.94	-0.79	-0.66	-0.56	-0.49	-0.49
S18	0.68	0.96	0.41	0.22	-0.03	-0.41	-0.45	-0.43	-0.41	-0.35	0.27	0.07	-0.19
S21	0.87	-1.05	0.76	-0.93	-1.41	-1.27	-1.20	-1.09	-0.92	-0.78	-0.66	-0.52	0.49
S28	0.87	0.95	0.33	0.08	-0.26	-0.40	-0.48	-0.52	-0.42	-0.38	-0.20	-0.14	-0.07

	35	40	50	60	70	80	90	92	94	96	98	TEO
S17	-0.47	-0.43	-0.09	-0.27	-0.18	-0.08	0.10					
S18	-0.18	-0.18	-0.20	-0.07	0.01	0.07	0.13	0.13	0.14	0.14	0.14	0.12
S21	-0.47	-0.41	-0.37	-0.27	-0.20	-0.10	0.02					
S28	-0.15	-0.17	-0.20	-0.09	-0.00	0.06	0.11	0.12	0.15	0.96	-0.08	0.19

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	717.44	710.06	674.35	670.89	661.48	656.80	646.44	646.44	609.65	649.92	664.35

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.76	14.17	14.53	14.82	14.94	14.94	14.93	14.95	14.95	14.95	14.96	14.96	14.96
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.97	14.96	13.63	14.96	14.95	14.94	13.28	14.92	14.42	13.02	13.87	14.62	

TABLE IX

HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

PRESSURE DATA

RUN - PT NO 675-6 CONFIGURATION L1C1E1B3PWT1R1RETP THETA 3/4 = 54.0 DEG RPM 4498.

H0 = 14.877 PSIA PINF = 13.350 PSIA TSC = 82.31 DEG F RHO = 0.00212 SLUGS/CU FT

M = 0.4096 V = 460.65 FPS Q = 225.274 PSF PSI = 0. DEG

SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.68	-0.66	-1.23	-1.16	-1.28	-0.52	-0.84	-0.58	-0.50	-0.42	-0.38	-0.39	-0.34
S1B	0.68	0.86	0.26	0.05	-0.17	-0.52	-0.53	-0.49	-0.45	-0.36	0.40	0.10	-0.27
S2T	0.76	-0.99	-1.24	-1.53	-1.14	-0.99	-0.76	-0.60	-0.52	-0.47	-0.42	-0.37	-0.44
S2B	0.76	0.86	0.17	-0.08	-0.40	-0.52	-0.55	-0.56	-0.46	-0.42	-0.29	-0.18	-0.18

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.34	-0.30	-0.22	-0.17	-0.10	-0.01	0.15	0.20	0.21	0.21	0.21	0.19
S1B	-0.18	-0.08	-0.07	0.02	0.10	0.14	0.21	0.20	0.21	0.21	0.21	0.19
S2T	-0.40	-0.37	-0.28	-0.19	-0.13	-0.05	0.07	0.19	0.22	0.23	0.01	0.26
S2B	-0.15	-0.07	-0.08	0.01	0.10	0.15	0.19	0.19	0.22	0.23	0.01	0.26

INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	499.53	496.44	469.50	468.05	460.57	458.36	448.81	445.79	411.84	446.22	460.51

EXIT RAKE PRESSURES, PSIA

GRIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.64	14.70	14.77	14.86	14.95	15.01	15.03	15.04	15.06	15.08	15.10	15.12	15.13
GRIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.15	15.16	14.48	15.18	15.19	15.21	14.29	15.19	14.92	14.27	14.88	14.89	

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN	- PT NO	675-7	CONFIGURATION	LIC1E1B3PWTTLR1RETP	THETA 3/4 = 54.0 DEG	RPM 5999.

HO = 14.877 PSIA    PINF = 13.341 PSIA    TSC = 82.05 DEG F    RHC = 0.00212 SLUGS/CU FT

M = 0.4108 V = 461.87 FPS Q = 226.476 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	C6	C8	10	12.5	15	17	20	25	30
S17	0.73	-0.64	-1.14	-1.10	-1.21	-0.51	-0.83	-0.55	-0.47	-0.40	-0.36	-0.40	-0.33
S18	0.73	0.83	0.17	-0.04	-0.30	-0.66	-0.64	-0.59	-0.54	-0.43	0.40	0.11	-0.33
S21	0.76	-0.90	-1.24	-1.45	-1.09	-0.95	-0.73	-0.58	-0.50	-0.45	-0.41	-0.35	-0.43
S28	0.76	0.82	0.09	-0.18	-0.53	-0.63	-0.67	-0.67	-0.56	-0.51	-0.31	-0.24	-0.21
S17		35	40	50	60	70	80	90	92	94	96	98	TEO
S17		-0.33	-0.30	-0.22	-0.16	-0.09	-0.01	0.14					
S18		-0.21	-0.10	-0.14	-0.01	0.08	0.14	0.20	0.19	0.21	0.21	0.21	0.18
S21		-0.38	-0.35	-0.27	-0.18	-0.13	-0.05	0.07					
S28		-0.17	-0.09	-0.15	-0.02	0.08	0.14	0.19	0.21	0.22	0.23	0.01	0.25

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	C9	1C	12	13	15	V AVE
R1	516.13	515.28	488.80	488.80	478.95	477.52	466.65	465.92	429.09	463.19	479.03

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
GRIFICE	14.84	14.91	14.95	14.97	15.03	15.09	15.16	15.21	15.25	15.27	15.31	15.34	15.37
RE	14	15	16	17	18	19	20	21	22	23	24	25	
GRIFICE	15.40	15.43	14.66	15.48	15.47	15.41	14.31	15.25	14.91	14.30	14.88	14.87	
RE	14	15	16	17	18	19	20	21	22	23	24	25	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 675-12 CONFIGURATION LICIEIB3PWTIRIRETP THETA 3/4 = 54.0 DEG RPM 5498.

H0 = 14.877 PSIA PINF = 13.350 PSIA TSC = 82.57 DEG F RHO = 0.00212 SLUGS/CU FT

M = 0.4096 V = 460.76 FPS Q = 225.274 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.72	-0.68	-1.15	-1.11	-1.20	-0.54	-0.83	-0.56	-0.48	-0.42	-0.38	-0.41	-0.34
S1B	0.72	0.82	0.16	-0.05	-0.31	-0.67	-0.66	-0.60	-0.56	-0.44	0.40	0.11	-0.36
S2T	0.76	-0.91	-1.23	-1.47	-1.10	-0.97	-0.74	-0.59	-0.50	-0.46	-0.41	-0.36	-0.44
S2B	0.76	0.82	0.08	-0.19	-0.55	-0.66	-0.69	-0.69	-0.58	-0.53	-0.33	-0.27	-0.23
	35	40	50	60	70	80	90	92	94	96	98	TEO	
S1T	-0.34	-0.30	-0.22	-0.17	-0.10	-0.02	0.14	0.19	0.20	0.20	0.20	0.18	
S1B	-0.24	-0.12	-0.12	0.30	0.08	0.13	0.20	0.19	0.20	0.20	0.20	0.20	
S2T	-0.39	-0.35	-0.27	-0.18	-0.13	-0.04	0.08	0.20	0.21	0.23	0.00	0.26	
S2B	-0.20	-0.10	-0.12	-0.01	0.09	0.13	0.19	0.20	0.21	0.23	0.00	0.26	

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	516.66	515.43	487.26	487.26	478.02	475.14	465.06	464.32	443.54	460.76	479.35

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.78	14.84	14.87	14.91	14.97	15.03	15.10	15.14	15.17	15.19	15.23	15.26	15.30
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.32	15.35	14.61	15.40	15.40	15.38	14.31	15.26	14.96	14.29	14.87	14.87	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 676-6 CONFIGURATION LIC1E1B3PWT11R1R1P THETA 3/4 = 46.0 DEG RPM 4500.

H0 = 14.874 PSIA PINF = 13.334 PSIA TSC = 79.71 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4113 V = 461.43 FPS Q = 226.927 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.62	-0.68	-1.35	-1.25	-1.38	-0.54	-0.86	-0.64	-0.54	-0.47	-0.42	-0.42	-0.38
S1B	0.62	0.91	0.35	0.17	-0.05	-0.36	-0.39	-0.36	-0.34	-0.27	0.35	0.10	-0.11
S2T	0.77	-1.13	-1.29	-1.77	-1.28	-1.25	-0.85	-0.68	-0.53	-0.44	-0.36	-0.29	-0.46
S2B	0.77	0.90	0.28	0.03	-0.26	-0.37	-0.42	-0.43	-0.34	-0.30	-0.12	-0.09	-0.08

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.38	-0.33	-0.23	-0.19	-0.12	-0.03	0.14	0.14	0.20	0.21	0.21	0.18
S1B	-0.10	-0.08	-0.06	0.02	0.10	0.14	0.20	0.19	0.20	0.21	0.21	0.18
S2T	-0.42	-0.38	-0.29	-0.20	-0.15	-0.06	0.06	0.17	0.20	0.21	0.00	0.24
S2B	-0.08	-0.07	-0.08	0.01	0.08	0.13	0.17	0.17	0.20	0.21	0.00	0.24

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
GRIFICE R1	478.63	474.39	450.23	449.48	440.37	438.84	434.91	430.25	388.42	431.47	441.70

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
GRIFICE RE	14.50	14.62	14.74	14.87	14.94	14.88	14.88	14.87	14.88	14.88	14.88	14.89	14.88
	14	15	16	17	18	19	20	21	22	23	24	25	
GRIFICE RE	14.89	14.89	14.37	15.00	15.00	15.01	14.21	15.00	14.75	14.22	14.88	14.87	

TABLE IX.

## HSD, SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

```

RUN      PL NO 676- 7 CONFIGURATION L1C1E1B3PWT1R1RETP THETA 3/4 = 46.0 DEG RPM 6495.

```

$\rho = 14.877$  PSIA     $P_{INF} = 13.345$  PSIA     $TSC = 80.75$  DEG F     $\rho = 0.00213$  SLUGS/CU FT

M = 0.4103 V = 460.72 FPS Q = 225.942 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.80	-0.62	-1.00	-1.02	-1.06	-0.52	-0.84	-0.50	-0.43	-0.37	-0.34	-0.44	-0.30
S1B	0.80	0.75	-0.00	-0.24	-0.54	-0.94	-0.91	-0.83	-0.76	-0.59	0.44	0.12	-0.61
S2T	0.77	-0.73	-1.28	-1.33	-0.98	-0.88	-0.67	-0.52	-0.46	-0.41	-0.37	-0.32	-0.43
S2B	0.77	0.77	-0.09	-0.31	-0.81	-0.93	-0.95	-0.94	-0.81	-0.75	-0.52	-0.42	-0.37

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	1C	12	13	15	V AVE
ORIFICE	01	03	04	06	07	09	1C	12	13	15	
R1	549.31	552.75	517.75	519.76	507.01	502.90	492.60	489.10	401.67	484.08	501.69

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
GRIFICE RE	14.75	14.79	14.87	14.93	15.01	14.89	14.91	14.91	14.92	14.92	14.93	14.94	14.96
DRIFICE RE	14.96	14.99	14.76	15.60	15.60	15.61	14.37	15.56	15.27	14.31	14.87	14.88	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 46.0 DEG RPM 5501.

RUN - PT NO 676-11 CONFIGURATION LIC1E1B3PHT1R1RETP.

H0 = 14.877 PSIA PINF = 13.347 PSIA TSC = 80.75 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4099 V = 460.35 FPS Q = 225.608 PSF PSI = U. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.70	-0.65	-1.19	-1.14	-1.26	-0.53	-0.83	-0.58	-0.49	-0.42	-0.38	-0.42	-0.34
S1B	0.70	0.85	0.20	0.00	-0.24	-0.60	-0.60	-0.55	-0.51	-0.41	0.41	0.11	-0.32
S2T	0.77	-0.96	-1.25	-1.47	-1.07	-0.86	-0.54	-0.39	-0.32	-0.27	-0.26	-0.16	-0.43
S2B	0.77	0.85	0.13	-0.13	-0.48	-0.59	-0.64	-0.64	-0.53	-0.49	-0.29	-0.24	-0.21
	35	40		50	60	70	80	90	92	94	96	98	TEO
S1T	-0.35	-0.30	-0.22	-0.22	-0.17	-0.11	-0.02	0.15	0.20	0.21	0.21	0.21	0.19
S1B	-0.23	-0.12	-0.08	-0.08	0.01	0.09	0.14	0.20	0.20	0.21	0.21	0.21	0.19
S2T	-0.39	-0.36	-0.27	-0.27	-0.18	-0.13	-0.04	0.08	0.19	0.21	0.22	0.01	0.27
S2B	-0.19	-0.10	-0.09	-0.09	-0.00	0.08	0.13	0.18	0.19	0.21	0.22	0.01	0.27

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
GRIFICE R1	508.26	504.43	477.89	477.89	467.80	465.61	456.20	451.73	428.69	451.65	469.02

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
GRIFICE RE	14.62	14.69	14.78	14.88	14.98	14.98	14.89	14.90	14.90	14.91	14.91	14.93	14.93
	14	15	16	17	18	19	20	21	22	23	24	25	
GRIFICE RE	14.93	14.94	14.50	15.22	15.24	15.25	14.29	15.25	14.97	14.26	14.87	14.88	



TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 42.0 DEG RPM 4500.

H0 = 14.888 PSIA PINF = 13.353 PSIA TSC = 78.15 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4105 V = 459.86 FPS Q = 226.326 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.56	-0.68	-1.37	-1.30	-1.47	-0.65	-0.92	-0.67	-0.56	-0.49	-0.43	-0.40	-0.39
S1B	0.56	0.92	0.42	0.24	0.04	-0.26	-0.30	-0.27	-0.26	-0.21	0.31	0.13	-0.03
S2T	0.83	-1.24	-1.46	-1.73	-1.29	-1.10	-0.86	-0.69	-0.59	-0.52	-0.47	-0.41	-0.49
S2B	0.83	0.97	0.45	0.22	-0.15	-0.26	-0.32	-0.33	-0.23	-0.14	-0.13	-0.01	-0.01

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.39	-0.34	-0.26	-0.20	-0.12	-0.04	0.13	0.19	0.20	0.21	0.21	0.18
S1B	-0.04	-0.04	-0.06	0.03	0.10	0.14	0.20	0.18	0.20	0.20	-0.02	0.23
S2T	-0.44	-0.41	-0.32	-0.22	-0.17	-0.08	0.05	0.17	0.20	0.20	0.20	0.23
S2B	-0.01	-0.04	-0.07	0.01	0.08	0.13	0.17	0.18	0.20	0.20	-0.02	0.23

## INLET VELOCITIES, FPS

GRIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	462.49	455.27	431.23	429.68	426.41	424.85	418.54	413.76	313.78	415.00	419.10

## EXIT RAKE PRESSURES, PSIA

GRIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.43	14.60	14.73	14.83	14.88	14.88	14.88	14.88	14.88	14.89	14.90	14.89	14.89
GRIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.89	14.89	14.92	14.91	14.90	14.91	14.90	14.91	14.63	14.23	14.89	14.89	

## TABLE IX

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

```

RUN = PL NO 677- 7 CONFIGURATION L1C1E1B3PWTT1LRURETPIO
THETA 3/4 = 42.0 DEG RPM 6504.

```

HQ = 14.890 PSIA  
 PINF = 13.346 PSIA  
 TSC = 79.84 DEG F  
 RHO = 0.00213 SLUGS/CU FT

M = 0.4117 V = 461.89 FPS Q = 227.535 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	1E0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1I	0.76	-0.58	-0.96	-0.90	-0.98	-0.42	-0.84	-0.53	-0.46	-0.39	-0.35	-0.43	-0.31
S1B	0.76	0.81	0.12	-0.12	-0.38	-0.75	-0.74	-0.68	-0.63	-0.48	0.41	0.13	-0.47
S2I	0.79	-0.84	-1.18	-1.38	-1.05	-0.93	-0.67	-0.52	-0.47	-0.31	-0.24	-0.27	-0.45
S2B	0.79	0.84	0.13	-0.11	-0.61	-0.73	-0.77	-0.78	-0.63	-0.51	-0.49	-0.31	-0.29

### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	V AVE
527.11	525.79	495.32	493.93	486.68	483.16	472.62	468.29	343.37	464.36	476.06

EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
GRIFICE	14.70	14.80	14.86	14.94	15.02	14.91	14.91	14.91	14.92	14.92	14.93	14.93	14.93
RE													
GRIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.94	14.94	15.39	15.41	15.42	15.42	15.42	15.42	15.39	15.07	14.30	14.89	14.89

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 42.0 DEG RPM 5497.

RUN - PJ NO 677-11 CONFIGURATION L1C1E1B3PWT11RURE1P10

HO = 14.890 PSIA PINF = 13.350 PSIA TSC = 80.36 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4110 V = 461.37 FPS Q = 226.867 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	1E0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.66	-0.59	-1.21	-1.14	-1.25	-0.41	-0.88	-0.61	-0.51	-0.44	-0.40	-0.41	-0.35
S1B	0.66	0.88	0.29	0.09	-0.14	-0.47	-0.49	-0.45	-0.42	-0.33	0.37	0.12	-0.22
S2T	0.77	-1.05	-1.28	-1.58	-1.21	-0.98	-0.92	-0.75	-0.64	-0.48	-0.44	-0.41	-0.48
S2B	0.77	0.88	0.32	0.10	-0.34	-0.45	-0.51	-0.52	-0.40	-0.30	-0.29	-0.15	-0.15
	35	40	50	60	70	80	90	92	94	96	98	TE0	
S1T	-0.35	-0.31	-0.23	-0.19	-0.11	-0.02	0.14	0.20	0.21	0.21	0.21	0.19	
S1B	-0.16	-0.11	-0.07	0.02	0.10	0.14	0.21	0.21	0.21	0.21	0.21	0.21	
S2T	-0.43	-0.40	-0.31	-0.22	-0.16	-0.07	0.05	0.18	0.19	0.21	0.22	-0.02	0.24
S2B	-0.13	-0.10	-0.07	0.01	0.09	0.14	0.18	0.18	0.19	0.21	0.22	-0.02	0.24

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	491.45	487.15	461.76	460.29	454.27	450.52	443.80	438.44	379.27	435.70	450.27

## EXIT RAKE PRESSURES, PSIA

GRIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.62	14.70	14.80	14.90	14.90	14.97	14.90	14.89	14.90	14.89	14.90	14.90	14.90
GRIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.91	14.90	15.08	15.09	15.10	15.10	15.11	15.10	14.79	14.26	14.89	14.89	

TABLE IX

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 678- 6 CONFIGURATION LICIE183PWTIR1REIP10. THETA 3/4 = 46.0 DEG RPM 4497.

HO = 14.893 PSIA PINE = 12.363 PSIA TSC = 79.19 DEG F RHQ = 0.00214 SLUGS/CU FT

M = 0.4097 V = 459.50 FPS Q = 225.683 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.61	-0.60	-1.32	-1.14	-1.33	-0.36	-0.88	-0.63	-0.53	-0.46	-0.41	-0.40	-0.37
S1B	0.61	0.90	0.35	0.17	-0.05	-0.38	-0.39	-0.37	-0.35	-0.28	0.34	0.12	-0.13
S2T	0.81	-1.14	-1.23	-1.67	-1.26	-1.04	-0.80	-0.63	-0.54	-0.46	-0.42	-0.35	-0.48
S2B	0.81	0.95	0.40	0.15	-0.25	-0.36	-0.41	-0.43	-0.32	-0.23	-0.22	-0.09	-0.09

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.37	-0.32	-0.25	-0.19	-0.11	-0.03	0.13	0.19	0.20	0.20	0.20	0.18
S1B	-0.10	-0.07	-0.06	0.03	0.10	0.14	0.19	0.19	0.20	0.20	0.20	0.18
S2T	-0.43	-0.39	-0.30	-0.21	-0.16	-0.07	0.06	0.17	0.19	0.20	0.22	0.23
S2B	-0.08	-0.07	-0.07	0.01	0.09	0.13	0.17	0.17	0.19	0.20	0.22	0.23

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
GRIFICE R1	477.27	472.57	448.21	447.46	441.40	438.34	428.35	426.00	335.64	426.50	434.17

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE RE	14.57	14.66	14.78	14.88	14.93	14.89	14.89	14.90	14.89	14.89	14.90	14.91	14.91
	14	15	16	17	18	19	20	21	22	23	24	25	
ORIFICE RE	14.91	14.90	15.00	15.00	15.00	15.01	15.02	15.01	14.70	14.25	14.89	14.89	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 678-7 CONFIGURATION LICIE1B3PWTIRIREIP10 THETA.3/4 = 46.0 DEG RPM 6506.

HO = 14.897 PSIA PINF = 13.352 PSIA ISC = 79.45 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4117 V = 461.78 FPS Q = 227.703 PSF PS1 = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.80	-0.53	-0.89	-0.94	-0.99	-0.40	-0.83	-0.50	-0.44	-0.37	-0.35	-0.45	-0.30
S1R	0.80	0.76	0.00	-0.25	-0.53	-0.93	-0.90	-0.83	-0.75	-0.58	0.43	0.13	-0.63
S2T	0.83	-0.74	-1.17	-1.33	-0.98	-0.90	-0.67	-0.53	-0.46	-0.41	-0.37	-0.32	-0.44
S2B	0.83	0.84	0.11	-0.11	-0.82	-0.94	-0.96	-0.95	-0.79	-0.64	-0.60	-0.40	-0.36

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.32	-0.27	-0.21	-0.15	-0.08	-0.00	0.15	0.21	0.23	0.21	0.22	0.20
S1B	-0.40	-0.17	-0.07	0.02	0.10	0.15	0.21	0.21	0.23	0.21	0.22	0.20
S2T	-0.39	-0.36	-0.28	-0.16	-0.14	-0.05	0.07	0.22	0.22	0.25	-0.02	0.26
S2B	-0.31	-0.13	-0.09	-0.00	0.10	0.16	0.21	0.22	0.22	0.25	-0.02	0.26

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	550.07	550.02	519.02	520.36	508.43	504.34	491.30	486.39	355.27	482.68	496.79

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.71	14.87	14.96	15.00	15.05	14.92	14.92	14.93	14.93	14.95	14.95	14.96	14.98

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.98	15.00	15.63	15.64	15.63	15.65	15.65	15.58	15.26	14.32	14.89	14.90

TABLE IX

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PI NO 678-11 CONFIGURATION LC1E1B3PWTTRIRETPIO THETA 3/4 = 46.0 DEG RPM 5500.

HO = 14.897 PSIA PINF = 12.358 PSIA TSC = 80.75 DEG F RHO = 0.00213 SLUGS/CU FT

M = 0.4109 V = 461.46 FPS Q = 226.902 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12	15	17	20	25	30
S1T	0.71	-0.52	-1.13	-1.04	-1.22	-0.42	-0.85	-0.58	-0.50	-0.5	-0.38	-0.42	-0.34
S1B	0.71	0.86	0.22	0.00	-0.24	-0.59	-0.60	-0.55	-0.51	-0.5	0.39	0.11	-0.35
S2T	0.82	-0.97	-1.25	-1.53	-1.13	-0.99	-0.75	-0.60	-0.52	-0.48	-0.43	-0.37	-0.45
S2B	0.82	0.90	0.22	-0.00	-0.47	-0.59	-0.63	-0.64	-0.50	-0.39	-0.37	-0.21	-0.21
	35	40	50	60	70	80	90	92	94	96	98	TEO	
S1T	-0.35	-0.31	-0.23	-0.18	-0.10	-0.02	0.14	0.20	0.21	0.21	0.21	0.20	
S1B	-0.23	-0.12	-0.07	0.01	0.10	0.13	0.21	0.20	0.21	0.21	0.21	0.21	
S2T	-0.41	-0.38	-0.29	-0.19	-0.15	-0.06	0.06	0.19	0.22	0.23	-0.00	0.26	
S2B	-0.19	-0.11	-0.08	0.00	0.09	0.14	0.19	0.19	0.22	0.23	-0.00	0.26	

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	507.83	506.82	478.12	476.69	468.11	464.46	456.35	451.87	392.71	449.84	465.28

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.68	14.76	14.83	14.92	14.99	14.91	14.92	14.92	14.93	14.92	14.93	14.94	14.93
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.95	14.95	15.22	15.23	15.24	15.24	15.25	15.24	14.90	14.28	14.91	14.90	

TABLE IX

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT. TEST SECTION

## PRESSURE DATA

RUN - PT NO 679-6 CONFIGURATION LIC1E1B3PW11R1R1E1P1O THETA 3/4 = 46.0 DEG RPM 5001.

HO = 14.907 PSIA PINE = 12.581 PSIA TSC = 84.78 DEG F RHO = 0.00203 SLUGS/CU FT

M = 0.5147 V = 574.81 FPS Q = 334.893 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.60	-0.78	-1.65	-1.57	-1.69	-0.58	-0.92	-0.76	-0.64	-0.56	-0.51	-0.46	-0.46
S1B	0.60	0.94	0.42	0.23	0.01	-0.32	-0.35	-0.34	-0.32	-0.27	0.33	0.06	-0.09
S2T	0.86	-1.29	-1.29	-1.90	-1.44	-1.22	-0.99	-0.72	-0.66	-0.61	-0.56	-0.49	-0.53
S2B	0.86	0.97	0.37	0.12	-0.19	-0.31	-0.38	-0.41	-0.30	-0.20	-0.21	-0.06	-0.07

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.45	-0.41	-0.31	-0.26	-0.17	-0.07	0.11	0.16	0.17	0.17	0.17	0.15
S1B	-0.10	-0.10	-0.12	-0.02	0.06	0.10	0.17	0.16	0.17	0.17	0.17	0.15
S2T	-0.47	-0.45	-0.35	-0.26	-0.20	-0.10	0.03	0.16	0.17	0.19	-0.05	0.22
S2B	-0.07	-0.09	-0.12	-0.03	0.05	0.10	0.14	0.16	0.17	0.19	-0.05	0.22

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	585.68	579.54	552.12	549.55	541.97	539.36	531.47	527.49	437.06	529.02	537.33

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.18	14.43	14.64	14.80	14.88	14.91	14.90	14.91	14.91	14.90	14.92	14.92	14.92
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.92	14.91	14.95	14.94	14.93	14.93	14.93	14.93	14.50	13.79	14.91	14.91	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN = PT NO. 679-7 CONFIGURATION LIC1E1B3PWTTIR1RETP10 THEIA 3/4 = 46.0 DEG RPM 6498.

HC = 14.908 PSIA PINF = 12.591 PSIA TSC = 85.05 DEG F RHC = 0.00203 SLUGS/CU FT

M = 0.5135 V = 573.71 FPS Q = 333.656 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	1E0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.70	-0.72	-1.48	-1.42	-1.53	-0.62	-0.95	-0.70	-0.59	-0.51	-0.46	-0.47	-0.42
S1B	0.70	0.89	0.26	0.05	-0.22	-0.59	-0.61	-0.58	-0.53	-0.45	0.38	0.07	-0.37
S2T	0.86	-1.07	-1.26	-1.75	-1.32	-1.12	-0.89	-0.72	-0.63	-0.56	-0.51	-0.46	-0.51
S2B	0.86	0.92	0.22	-0.01	-0.45	-0.59	-0.64	-0.67	-0.53	-0.40	-0.40	-0.22	-0.22
S1I	35	-0.42	-0.37	-0.32	-0.23	-0.15	-0.06	0.12	0.17	0.18	0.18	0.19	0.16
S1B		-0.26	-0.17	-0.12	-0.02	0.06	0.11	0.17	0.17	0.18	0.20	-0.04	0.24
S2I		-0.46	-0.42	-0.33	-0.24	-0.18	-0.09	0.05	0.17	0.18	0.20	-0.04	0.24
S2B		-0.22	-0.16	-0.14	-0.04	0.05	0.11	0.16	0.17	0.18	0.20	-0.04	0.24

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	631.88	630.47	593.42	594.03	584.34	580.02	567.64	563.86	454.74	565.07	576.55

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.46	14.62	14.76	14.91	15.03	15.12	15.20	15.23	15.25	15.29	15.31	15.31	15.34
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.30	15.33	15.28	15.26	15.29	15.28	15.30	15.23	14.76	13.88	14.91	14.91	



TABLE IX  
HSD SHROUDED PROPELLER TEST  
PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 679-11 CONFIGURATION L1C1E1B3PWT1R1RETP10 THETA 3/4 = 46.0 DEG RPM 5499.

H0 = 14.898 PSIA PINF = 12.574 PSIA TSC = 85.05 DEG F RHO = 0.00203 SLUGS/CU FT

M = 0.5147 V = 574.94 FPS Q = 334.704 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS.

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.62	-0.77	-1.71	-1.61	-1.82	-0.68	-0.96	-0.74	-0.62	-0.55	-0.49	-0.46	-0.45
S1B	0.62	0.92	0.36	0.18	-0.07	-0.42	-0.45	-0.42	-0.41	-0.34	0.34	0.06	-0.19
S2T	0.87	-1.23	-1.24	-1.87	-1.41	-1.20	-0.97	-0.79	-0.68	-0.60	-0.54	-0.48	-0.52
S2B	0.87	0.95	0.41	0.18	-0.28	-0.40	-0.47	-0.49	-0.38	-0.28	-0.28	-0.12	-0.13

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.45	-0.40	-0.30	-0.25	-0.16	-0.07	0.11	0.16	0.17	0.17	0.18	0.15
S1B	-0.15	-0.14	-0.13	-0.03	0.05	0.10	0.17	0.16	0.17	0.17	0.18	0.15
S2T	-0.48	-0.44	-0.35	-0.25	-0.19	-0.09	0.03	0.15	0.17	0.19	-0.05	0.22
S2B	-0.12	-0.12	-0.13	-0.04	0.05	0.09	0.14	0.15	0.17	0.19	-0.05	0.22

## INLET VELOCITIES, FPS

GRIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	600.39	595.07	565.27	562.75	555.02	553.74	544.08	539.53	486.41	541.29	554.36

## EXIT RAKE PRESSURES, PSIA

GRIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.28	14.47	14.67	14.83	14.90	14.89	14.88	14.89	14.89	14.89	14.90	14.90	14.91
GRIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.90	14.91	15.02	15.02	15.02	15.03	15.05	15.02	14.54	13.79	14.89	14.89	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 681-6 CONFIGURATION LICIE1B3PTIR1RETP THETA 3/4 = 38.0 DEG RPM 4502.

HQ = 14.898 PSIA PINF = 14.008 PSIA TSC = 74.76 DEG F RHO = 0.00223 SLUGS/CU FT

M = 0.3078 V = 346.27 FPS Q = 133.657 PSF PSI = 0.0 DEG

## SHROUD PRESSURE COEFFICIENTS

	1E0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.57	-0.49	-0.99	-0.87	-1.16	-0.67	-0.90	-0.68	-0.56	-0.50	-0.45	-0.45	-0.41
S1B	0.57	0.89	0.30	0.12	-0.10	-0.41	-0.43	-0.40	-0.37	-0.31	0.30	0.11	-0.14
S2T	1.00	-1.19	-1.40	-1.66	-1.26	-1.08	-0.84	-0.67	-0.58	-0.52	-0.48	-0.42	-0.51
S2B	1.00	0.91	0.40	0.17	-0.31	-0.43	-0.47	-0.49	-0.37	-0.27	-0.24	-0.11	-0.13

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.41	-0.35	-0.29	-0.24	-0.15	-0.06	0.09	0.15	0.17	0.17	0.18	0.15
S1B	-0.12	-0.11	-0.09	-0.00	0.06	0.10	0.16	0.14	0.16	0.18	-0.05	0.21
S2T	-0.46	-0.41	-0.33	-0.24	-0.18	-0.09	0.03	0.14	0.16	0.18	-0.05	0.21
S2B	-0.12	-0.11	-0.11	-0.03	0.05	0.10	0.14	0.14	0.16	0.18	-0.05	0.21

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	370.67	364.93	345.74	343.86	339.13	338.17	332.45	327.57	267.03	328.20	335.78

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.68	14.78	14.87	14.94	14.97	14.97	14.97	14.98	14.98	14.98	14.99	14.99	14.99
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.99	14.98	14.98	14.98	14.98	14.98	14.97	14.97	14.80	14.51	14.90	14.90	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 681-7 CONFIGURATION L1C1E1B3P1R1R1E1P

THETA 3/4 = 38.0 DEG RPM 6502.

HO = 14.899 PSIA PINE = 14.006 PSIA ISC = 72.94 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3083 V = 346.15 FPS Q = 134.011 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.85	-0.69	-0.90	-0.93	-0.92	-0.91	-0.74	-0.49	-0.43	-0.38	-0.36	-0.51	-0.31
S1B	0.85	0.69	-0.20	-0.44	-0.76	-1.17	-1.11	-1.01	-0.92	-0.72	0.40	0.13	-0.82
S2T	0.98	-0.66	-0.99	-1.21	-0.91	-0.85	-0.63	-0.50	-0.44	-0.41	-0.37	-0.32	-0.43
S2B	0.98	0.63	-0.31	-0.59	-1.07	-1.19	-1.19	-1.16	-0.99	-0.84	-0.78	-0.59	-0.54

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.33	-0.28	-0.23	-0.17	-0.10	-0.02	0.13	0.19	0.20	0.20	0.21	0.19
S1B	-0.56	-0.22	-0.12	-0.02	0.06	0.11	0.20	0.19	0.20	0.20	0.21	0.19
S2T	-0.38	-0.34	-0.27	-0.19	-0.13	-0.05	0.07	0.19	0.20	0.23	-0.01	0.26
S2B	-0.49	-0.20	-0.14	-0.03	0.07	0.13	0.18	0.19	0.20	0.23	-0.01	0.26

## INLET VELOCITIES, FPS

GRIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	436.21	437.79	412.85	411.25	403.19	399.11	387.53	384.15	287.31	377.31	393.67

## EXIT RAKE PRESSURES, PSIA

GRIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.83	14.94	15.02	15.06	15.11	15.17	15.22	15.25	15.27	15.29	15.31	15.33	15.35
GRIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.37	15.38	15.39	15.41	15.43	15.44	15.45	15.43	15.20	14.57	14.90	14.90	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 681-11 CONFIGURATION L1C1E1B3PRT1R1RETP THETA 3/4 = 38.0 DEG RPM 5502.

HQ = 14.908 PSIA PINF = 14.617 PSIA TSC = 72.81 DEG F RHO = 0.00224 SLUGS/CU FT

N = 0.3078 V = 345.55 FPS Q = 133.677 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.73	-0.43	-0.79	-0.79	-0.78	-0.38	-0.84	-0.58	-0.51	-0.43	-0.40	-0.46	-0.35
S1B	0.73	0.80	0.09	-0.13	-0.38	-0.74	-0.72	-0.67	-0.61	-0.49	0.37	0.11	-0.45
S2T	1.01	-0.93	-1.21	-1.46	-1.10	-0.98	-0.76	-0.59	-0.52	-0.48	-0.43	-0.38	-0.48
S2B	1.01	0.89	0.38	0.18	-0.64	-0.75	-0.78	-0.77	-0.63	-0.50	-0.47	-0.31	-0.30

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.37	-0.32	-0.25	-0.20	-0.13	-0.04	0.10	0.16	0.18	0.18	0.19	0.16
S1B	-0.33	-0.19	-0.11	-0.02	0.06	0.11	0.17	0.17	0.18	0.18	0.19	0.16
S2T	-0.43	-0.39	-0.30	-0.22	-0.16	-0.08	0.05	0.17	0.18	0.20	-0.03	0.24
S2B	-0.30	-0.17	-0.13	-0.04	0.05	0.10	0.15	0.17	0.18	0.20	-0.03	0.24

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
GRIFICE RI	399.35	396.32	374.35	373.48	367.35	363.81	356.63	353.00	317.42	351.00	365.27

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
GRIFICE RE	14.81	14.87	14.95	15.01	15.06	15.08	15.10	15.12	15.12	15.14	15.14	15.14	15.16
	14	15	16	17	18	19	20	21	22	23	24	25	
GRIFICE RE	15.16	15.16	15.16	15.17	15.16	15.16	15.17	15.16	14.96	14.55	14.91	14.90	

TABLE IX

HSD SHROUDED PROPELLER TEST  
PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT. NO. 682-6 CONFIGURATION L1C1E1B3PRT1R1RETP THETA 3/4 = 50.0 DEG RPM 4502.

H0 = 14.908 PSIA PINF = 13.367 PSIA TSC = 72.81 DEG F RHO = 0.00216 SLUGS/CU FT

M = 0.4109 V = 458.08 FPS Q = 227.086 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.63	-0.65	-1.26	-1.20	-1.32	-0.68	-0.86	-0.60	-0.51	-0.44	-0.39	-0.40	-0.35
S1B	0.63	0.87	0.28	0.09	-0.13	-0.45	-0.46	-0.42	-0.39	-0.31	0.38	0.12	-0.19
S2T	0.97	-1.05	-1.29	-1.56	-1.16	-1.00	-0.78	-0.62	-0.53	-0.48	-0.4	-0.37	-0.48
S2B	0.97	0.88	0.22	-0.03	-0.34	-0.45	-0.51	-0.50	-0.39	-0.28	-0.26	-0.13	-0.13

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.35	-0.31	-0.24	-0.17	-0.09	-0.01	0.14	0.20	0.21	0.21	0.22	0.20
S1B	-0.13	-0.17	-0.06	0.03	0.11	0.15	0.21	0.20	0.21	0.21	0.22	0.20
S2T	-0.43	-0.1	-0.31	-0.21	-0.16	-0.07	0.06	0.19	0.21	0.22	-0.02	0.24
S2B	-0.12	-0.1	-0.08	0.01	0.08	0.14	0.18	0.19	0.21	0.22	-0.02	0.24

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	488.40	484.20	457.89	454.23	446.75	445.26	436.29	431.71	378.98	433.16	445.69

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.62	14.71	14.81	14.91	15.00	15.04	15.06	15.07	15.08	15.09	15.10	15.10	15.11
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.12	15.12	15.11	15.12	15.12	15.12	15.12	15.12	14.83	14.28	14.91	14.91	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO - 682-7 CONFIGURATION LICIE1B3PRT1R1RETP THETA 3/4 = 50.0 DEG RPH 6105.

HO = 14.898 PSIA PINF = 13.368 PSIA TSC = 74.24 DEG F RHO = 0.00216 SLUGS/CU FT

ML = 0.4096 V = 457.19 FPS Q = 225.573 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.80	-0.55	-0.86	-0.94	-1.03	-0.51	-0.80	-0.51	-0.44	-0.38	-0.35	-0.44	-0.30
S1B	0.80	0.79	0.03	-0.19	-0.47	-0.86	-0.84	-0.77	-0.71	-0.55	0.43	0.13	-0.52
S2T	0.95	-0.77	-1.09	-1.34	-1.00	-0.90	-0.68	-0.52	-0.46	-0.41	-0.37	-0.32	-0.43
S2B	0.95	0.80	0.16	-0.20	-0.75	-0.87	-0.90	-0.88	-0.73	-0.59	-0.56	-0.36	-0.33

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.32	-0.28	-0.21	-0.16	-0.08	-0.00	0.14	0.20	0.22	0.21	0.22	0.20
S1B	-0.34	-0.19	-0.11	0.01	0.09	0.14	0.20	0.20	0.22	0.21	0.22	0.20
S2T	-0.39	-0.36	-0.28	-0.19	-0.14	-0.05	0.07	0.21	0.22	0.24	-0.00	0.27
S2B	-0.27	-0.15	-0.12	-0.00	0.10	0.15	0.20	0.21	0.22	0.24	-0.00	0.27

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	537.49	537.96	509.61	507.59	497.50	494.75	482.25	477.32	400.99	472.50	491.80

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.72	14.82	14.92	15.01	15.07	15.13	15.22	15.29	15.35	15.39	15.43	15.47	15.50
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.52	15.53	15.54	15.54	15.54	15.52	15.48	15.42	15.07	14.34	14.90	14.90	

TABLE IX

HSD SHROUDED PROPELLER TEST  
PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 50.0 DEG RPM 5500.

RUN - PT NO 682-11 CONFIGURATION LIC1E1B3PRT1R1RET

HO = 14.908 PSIA PINF = 13.366 PSIA TSC = 74.24 DEG F RHC = 0.00216 SLUGS/CU FT

M = 0.4112 V = 458.91 FPS Q = 227.286 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.75	-0.56	-1.06	-1.03	-1.19	-0.59	-0.82	-0.55	-0.47	-0.40	-0.37	-0.43	-0.33
S1B	0.75	0.82	0.12	-0.10	-0.36	-0.73	-0.72	-0.66	-0.60	-0.48	0.40	0.13	-0.43
S2T	0.95	-0.87	-1.15	-1.43	-1.08	-0.95	-0.72	-0.57	-0.49	-0.44	-0.40	-0.35	-0.47
S2B	0.95	0.83	0.14	-0.09	-0.61	-0.73	-0.76	-0.76	-0.62	-0.49	-0.47	-0.29	-0.28
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1T		-0.34	-0.29	-0.23	-0.17	-0.09	-0.01	0.14	0.20	0.21	0.21	0.21	0.20
S1B		-0.30	-0.14	-0.08	0.01	0.09	0.13	0.21	0.20	0.21	0.21	0.21	0.20
S2T		-0.43	-0.40	-0.31	-0.22	-0.16	-0.07	0.06	0.19	0.21	0.22	-0.03	0.25
S2B		-0.23	-0.12	-0.09	-0.00	0.08	0.13	0.19	0.19	0.21	0.22	-0.03	0.25

## INLET VELOCITIES, FPS

GRIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	522.90	519.02	492.59	491.21	482.86	479.34	469.30	464.99	432.08	459.75	481.40

## EXIT RAKE PRESSURES, PSIA

GRIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.70	14.82	14.91	14.96	15.02	15.09	15.16	15.20	15.23	15.25	15.28	15.29	15.31
GRIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.33	15.35	15.36	15.37	15.39	15.40	15.39	15.36	15.02	14.30	14.91	14.91	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO. 683-6 CONFIGURATION. LIC1E1B3PT1R1RETP THETA 3/4 = 50.0 DEG RPM 4498.

HQ = 14.893 PSIA PINE = 12.569 PSIA ISC = 77.37 DEG F RHC = 0.00205 SLUGS/CU FT

M = 0.5149 V = 571.07 FPS Q = 334.791 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.60	-0.84	-1.74	-1.57	-1.75	-0.69	-0.68	-0.76	-0.64	-0.56	-0.50	-0.46	-0.45
S1B	0.60	0.94	0.40	0.22	-0.00	-0.34	-0.37	-0.36	-0.34	-0.28	0.34	0.06	-0.09
S2T	0.99	-1.28	-1.40	-1.88	-1.44	-1.21	-0.99	-0.81	-0.69	-0.61	-0.55	-0.49	-0.54
S2B	0.99	0.96	0.40	0.16	-0.20	-0.33	-0.40	-0.42	-0.32	-0.22	-0.21	-0.07	-0.08

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.45	-0.40	-0.33	-0.26	-0.17	-0.07	0.10	0.16	0.18	0.17	0.17	0.15
S1B	-0.10	-0.10	-0.13	-0.02	0.06	0.10	0.16	0.16	0.15	0.18	-0.06	0.22
S2T	-0.48	-0.45	-0.36	-0.26	-0.20	-0.11	0.03	0.14	0.17	0.18	-0.06	0.22
S2B	-0.08	-0.09	-0.13	-0.04	0.05	0.10	0.14	0.15	0.17	0.18	-0.06	0.22

## INLET VELOCITIES, FPS

GRIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	586.46	581.73	551.10	549.19	541.61	539.67	49.86	527.29	457.39	526.07	491.04

## EXIT RAKE PRESSURES, PSIA

GRIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.20	14.45	14.68	14.86	14.94	14.96	14.97	14.96	14.96	14.96	14.97	14.96	14.96

GRIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.96	14.94	14.94	14.94	14.93	14.93	14.92	14.91	14.48	13.79	14.89	14.89



TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 683- 7 CONFIGURATION LIC1E1B3PRT1R1RETP THETA 3/4 = 50.0 DEG RPM 6503.

H0 = 14.898 PSIA PINF = 12.580 PSIA TSC = 77.37 DEG F RHO = 0.00205 SLUGS/CU FT

M = 0.5139 V = 570.04 FPS Q = 333.829 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.73	-0.72	-1.34	-1.38	-1.50	-0.60	-0.72	-0.67	-0.57	-0.49	-0.45	-0.48	-0.41
S1B	0.73	0.86	0.19	-0.03	-0.30	-0.70	-0.71	-0.67	-0.62	-0.49	0.39	0.08	-0.42
S2T	0.99	-1.00	-1.40	-1.68	-1.29	-1.11	-0.87	-0.69	-0.60	-0.53	-0.49	-0.43	-0.51
S2B	0.99	0.88	0.19	-0.05	-0.55	-0.69	-0.75	-0.76	-0.62	-0.48	-0.47	-0.28	-0.26

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.41	-0.36	-0.29	-0.23	-0.14	-0.05	0.11	0.17	0.19	0.19	0.19	0.17
S1B	-0.30	-0.16	-0.15	-0.03	0.06	0.11	0.18	0.05	0.17	0.18	0.21	0.24
S2T	-0.46	-0.43	-0.33	-0.23	-0.18	-0.08	0.05	0.16	0.17	0.18	0.21	0.24
S2B	-0.26	-0.15	-0.16	-0.05	0.05	0.10	0.16	0.17	0.18	0.21	0.24	0.24

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	643.80	641.94	608.84	607.65	598.02	595.02	61.07	578.02	475.84	572.32	538.25

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.43	14.58	14.74	14.90	15.04	15.16	15.26	15.33	15.37	15.41	15.46	15.47	15.47
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.47	15.47	15.47	15.47	15.48	15.50	15.49	15.43	14.81	13.89	14.90	14.89	

HSD SHROUDED PROPELLER TEST  
PHASE I -- 8 FT TEST SECTION

### PRESSURE DATA

THETA 3/4 = 50.0 DEG RPM 5506.

RUN - PT NO. 683-11 CONFIGURATION LICIE183PTIRIRETP

RH0 = 14.890 PSIA      PINF = 12.572 PSIA      TSC = 77.37 DEG F      RHO = 0.00205 SLUGS/CU FT

$N = 0.5140$      $V = .570.16$  FPS     $Q = 333.765$  PSF     $PSI = 0.$  DEG

## STROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.68	-0.80	-1.53	-1.47	-1.62	-0.63	-0.81	-0.71	-0.60	-0.52	-0.48	-0.46	-0.44
S1B	0.68	0.90	0.28	0.09	-0.17	-0.54	-0.56	-0.53	-0.50	-0.40	0.37	0.08	-0.28
S2T	0.98	-1.13	-1.41	-1.78	-1.35	-1.16	-0.93	-0.76	-0.65	-0.58	-0.52	-0.47	-0.52
S2B	0.98	0.92	0.29	0.04	-0.40	-0.54	-0.60	-0.62	-0.49	-0.37	-0.36	-0.20	-0.20

## INLET VELOCITIES, FPS

[illegible]

EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE													
RE	14.32	14.50	14.70	14.86	14.99	15.07	15.11	15.12	15.13	15.15	15.16	15.18	15.21
CRIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.20	15.20	15.20	15.21	15.20	15.20	15.20	15.19	14.71	13.85	14.89	14.88	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN -- PT NO 684-6 CONFIGURATION L1C1E1B3PRT1R1REIP

THETA 3/4 = 46.0 DEG RPM 4502.

HO = 14.889 PSIA PINF = 13.349 PSIA TSC = 72.16 DEG F RHO = 0.00216 SLUGS/CU FT

M = 0.4112 V = 458.02 FPS Q = 226.996 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.60	-0.65	-1.36	-1.26	-1.37	-0.31	-0.87	-0.64	-0.54	-0.46	-0.41	-0.41	-0.38
S1B	0.60	0.90	0.34	0.17	-0.05	-0.38	-0.40	-0.36	-0.34	-0.27	0.34	0.12	-0.11
S2T	0.96	-1.14	-1.35	-1.64	-1.24	-1.05	-0.82	-0.66	-0.57	-0.51	-0.46	-0.40	-0.48
S2B	0.96	0.92	0.47	0.17	-0.25	-0.37	-0.43	-0.44	-0.32	-0.23	-0.21	-0.08	-0.09

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.38	-0.33	-0.26	-0.19	-0.11	-0.03	0.13	0.19	0.20	0.21	0.20	0.18
S1B	-0.10	-0.07	-0.07	0.02	0.10	0.14	0.20	0.17	0.20	0.22	-0.02	0.23
S2T	-0.43	-0.40	-0.31	-0.21	-0.17	-0.07	0.05	0.17	0.17	0.22	-0.02	0.23
S2B	-0.09	-0.07	-0.08	0.00	0.08	0.13	0.17	0.17	0.20	0.22	-0.02	0.23

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
CRIFICE R1	478.52	473.81	448.46	445.48	440.14	437.87	49.63	425.59	410.14	425.89	403.55

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
CRIFICE RE	14.56	14.67	14.79	14.90	14.97	14.98	14.99	15.00	15.00	15.01	15.02	15.02	15.02
ORIFICE RE	14	15	16	17	18	19	20	21	22	23	24	25	25
	15.02	15.02	15.01	15.01	15.01	15.00	15.00	15.00	14.72	14.24	14.88	14.88	14.88

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 46.0 DEG RPM 6502.

RUN - PT. NO. 684-7 CONFIGURATION L1C1E1B3PRT1R1RETP

MO = 14.890 PSIA PINF = 13.348 PSIA TSC = 72.81 DEG F RHO = 0.00216 SLUGS/CU. FT

M = 0.4113 V = 458.51 FPS Q = 227.201 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.81	-0.44	-1.04	-1.13	-1.17	-0.68	-0.82	-0.49	-0.43	-0.38	-0.34	-0.45	-0.29
S1B	0.81	0.77	-0.02	-0.26	-0.55	-0.95	-0.90	-0.84	-0.77	-0.58	0.44	0.13	-0.61
S2T	0.92	-0.74	-1.09	-1.31	-0.98	-0.89	-0.66	-0.52	-0.45	-0.41	-0.37	-0.32	-0.41
S2B	0.92	0.77	-0.00	-0.15	-0.82	-0.95	-0.97	-0.95	-0.80	-0.65	-0.62	-0.42	-0.38

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.31	-0.27	-0.20	-0.16	-0.08	0.00	0.14	0.21	0.22	0.22	0.23	0.21
S1B	-0.39	-0.18	-0.09	0.01	0.09	0.14	0.21	0.21	0.22	0.22	0.23	0.21
S2T	-0.37	-0.34	-0.26	-0.17	-0.11	-0.03	0.08	0.22	0.23	0.25	0.00	0.28
S2B	-0.32	-0.13	-0.10	-0.00	0.09	0.16	0.21	0.22	0.23	0.25	0.00	0.28

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	546.90	547.64	517.75	516.43	505.15	503.12	43.00	486.65	421.16	479.74	456.75

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.69	14.80	14.92	15.01	15.07	15.15	15.23	15.30	15.36	15.40	15.44	15.48	15.52
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.54	15.58	15.59	15.60	15.60	15.60	15.59	15.54	15.18	14.33	14.89	14.89	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO. 684-12 CONFIGURATION L1C1E1B3P1R1R1R1E1P THETA 3/4 = 46.0 DEG RPM 5502.

HO = 14.897 PSIA .PINF = 13.367 PSIA TSC = 84.65 DEG F RHO = 0.00212 SLUGS/CU FT

M = 0.4096 V = 461.64 FPS Q = 225.566 PSF PSL = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	1E0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.71	-0.61	-1.15	-1.10	-1.22	-0.56	-0.83	-0.55	-0.47	-0.41	-0.36	-0.41	-0.32
S1R	0.71	0.85	0.19	-0.01	-0.25	-0.59	-0.59	-0.55	-0.49	-0.39	0.37	0.14	-0.32
S2T	0.92	-0.94	-1.21	-1.48	-1.11	-0.96	-0.74	-0.59	-0.51	-0.46	-0.41	-0.34	-0.47
S2R	0.92	0.84	0.13	-0.13	-0.46	-0.58	-0.63	-0.63	-0.50	-0.38	-0.37	-0.21	-0.21

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.33	-0.29	-0.22	-0.16	-0.09	-0.01	0.14	0.20	0.22	0.22	0.22	0.21
S1R	-0.23	-0.10	-0.07	0.02	0.10	0.15	0.21	0.20	0.22	0.22	0.22	0.21
S2T	-0.42	-0.39	-0.30	-0.21	-0.16	-0.07	0.05	0.20	0.21	0.23	-0.02	0.25
S2R	-0.18	-0.09	-0.09	0.01	0.09	0.14	0.20	0.20	0.21	0.23	-0.02	0.25

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	509.18	504.73	478.59	477.15	469.25	464.84	43.49	451.41	440.79	449.90	428.93

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.67	14.78	14.86	14.94	15.03	15.09	15.12	15.14	15.15	15.16	15.18	15.19	15.20
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.21	15.22	15.22	15.23	15.24	15.25	15.25	15.24	14.91	14.31	14.90	14.90	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 42.0 DEG RPM 4501

RUN - PT NO 686-6 CONFIGURATION L1C1E3B3PWTTIRIRP

H0 = 14.899 PSIA PINF = 14.004 PSIA TSC = 71.51 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3087 V = 346.16 FPS Q = 134.364 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	150	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.87	-1.84	-0.81	-0.84	-0.81	-1.21	-0.64	-0.40	-0.36	-0.29	-0.26	-0.37	-0.23
S1B	0.87	0.61	-0.30	-0.60	-0.87	-1.30	-1.25	-1.11	-1.04	-0.83	0.29	-0.07	-0.98
S2T	-0.04	-0.55	-0.91	-1.06	-0.81	-0.74	-0.55	-0.41	-0.37	-0.33	-0.29	-0.26	-0.32
S2B	-0.04	0.60	-0.43	-0.77	-1.27	-1.34	-1.36	-1.31	-1.10	-1.03	-0.75	-0.69	-0.70

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.22	-0.22	-0.22	-0.21	-0.14	-0.09	-0.04	0.05	0.08	0.11	0.13	0.16
S1B	-0.77	-0.73	-0.84	-0.53	-0.25	-0.11	0.03	0.06	0.08	0.11	0.13	0.16
S2T	-0.32	-0.26	-0.24	-0.16	-0.13	-0.08	-0.01	0.05	0.10	0.11	0.15	0.15
S2B	-0.69	-0.73	-0.92	-0.55	-0.30	-0.12	0.03	0.05	0.10	0.11	0.15	0.15

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	449.98	447.51	425.62	420.17	412.20	408.21	393.60	391.94	315.53	389.23	405.40

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.57	14.74	14.84	14.93	14.94	14.94	14.94	14.94	14.95	14.94	14.95	14.96	14.95
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.95	14.94	14.94	14.94	14.94	14.94	14.93	14.93	14.92	14.91	14.80	14.31	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 3 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 686-7 CONFIGURATION LIC1E363PWT11R1REIP THEIA 3/4 = 42.0 DEG RPM 6501.

HQ = 14.898 PSIA PINF = 14.005 PSIA TSC = 72.16 DEG F RHO = 0.00224 SLUGS/CCU FT

M = 0.3083 V = 345.90 FPS Q = 134.009 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.94	-1.69	-0.30	-0.47	-0.50	-1.17	-0.40	-0.20	-0.20	-0.15	-0.14	-0.28	-0.13
S18	0.94	0.15	-1.14	-1.60	-1.96	-2.55	-2.37	-2.10	-1.94	-1.56	0.31	-0.03	-1.89
S2T	0.00	-0.01	-0.45	-0.62	-0.51	-0.39	-0.30	-0.20	-0.19	-0.18	-0.16	-0.19	-0.23
S2H	0.00	0.10	-1.33	-1.70	-2.54	-2.58	-2.51	-2.38	-2.07	-1.91	-1.52	-1.39	-1.36

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.14	-0.14	-0.14	-0.06	-0.02	0.02	0.11					
S18	-1.54	-1.21	-1.18	-0.77	-0.40	-0.20	0.01	0.06	0.09	0.13	0.17	0.21
S2T	-0.24	-0.18	-0.16	-0.09	-0.06	-0.02	0.04					
S2B	-1.32	-1.15	-1.31	-0.78	-0.44	-0.20	0.01	0.06	0.10	0.13	0.14	0.22

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	537.91	538.51	510.34	505.64	491.92	485.69	464.52	464.52	341.43	454.25	479.47

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.72	14.85	14.90	14.98	15.06	15.09	15.12	15.16	15.18	15.19	15.23	15.25	15.26
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.28	15.30	15.31	15.33	15.34	15.36	15.38	15.40	15.41	15.39	15.24	14.42	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PI NO 686-12 CONFIGURATION L1C1E3B3PWTIRIRETP THETA 3/4 = 42.0 DEG RPM 5499.

HQ = 14.897 PSIA PINF = 14.004 PSIA TSC = 72.94 DEG F RHD = 0.00224 SLUGS/ACU FT

M = 0.3083 V = 346.17 FPS Q = 134.006 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
SLT	0.95	-1.52	-0.55	-0.66	-0.65	-1.15	-0.50	-0.31	-0.26	-0.20	-0.19	-0.31	-0.16
SLB	0.95	-0.45	-0.63	-0.98	-1.30	-1.77	-1.71	-1.51	-1.38	-1.10	0.28	-0.06	-1.32
S2T	-0.00	-0.28	-0.70	-0.84	-0.65	-0.50	-0.40	-0.27	-0.26	-0.25	-0.21	-0.20	-0.27
S2B	-0.00	0.42	-0.79	-1.18	-1.75	-1.82	-1.80	-1.72	-1.47	-1.36	-1.06	-0.96	-0.96

	35	40	50	60	70	80	90	92	94	96	98	TEO
SLT	-0.17	-0.17	-0.15	-0.08	-0.06	-0.00	0.09	0.07	0.09	0.13	0.16	0.20
SLB	-1.07	-0.91	-0.94	-0.59	-0.29	-0.11	0.04	0.07	0.09	0.13	0.16	0.20
S2T	-0.29	-0.21	-0.18	-0.12	-0.09	-0.05	0.03	0.06	0.10	0.14	0.17	0.19
S2B	-0.94	-0.90	-1.06	-0.62	-0.32	-0.12	0.05	0.06	0.10	0.14	0.17	0.19

## INLET VELOCITIES, FPS

	01	03	04	06	07	09	10	12	13	15	V AVE
ORIFICE R1	487.15	485.77	460.46	456.12	445.02	439.05	60.56	420.78	393.22	415.92	406.41

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE RE	14.68	14.79	14.87	14.96	15.02	15.03	15.04	15.05	15.06	15.08	15.09	15.10	15.10

	14	15	16	17	18	19	20	21	22	23	24	25
ORIFICE RE	15.10	15.12	15.12	15.13	15.12	15.14	15.14	15.14	15.14	15.13	15.00	14.35



TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 687- 6 CONFIGURATION L1C1E3B3PWTTIRIRETP THETA 3/4 = 50.0 DEG RPM 4497.

HO = 14.884 PSIA PINF = 13.339 PSIA TSC = 76.72 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4119 V = 460.77 FPS Q = 227.641 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.87	-0.92	-0.78	-0.81	-0.79	-1.15	-0.58	-0.39	-0.33	-0.27	-0.24	-0.34	-0.21
S1B	0.87	0.66	-0.23	-0.54	-0.83	-1.28	-1.25	-1.11	-1.03	-0.80	0.15	-0.05	-0.96
S2T	-0.00	-0.52	-0.90	-1.08	-0.81	-0.74	-0.53	-0.38	-0.34	-0.30	-0.26	-0.22	-0.30
S2B	-0.00	0.65	-0.34	-0.69	-1.19	-1.27	-1.29	-1.27	-1.07	-0.97	-0.73	-0.65	-0.66
	35	40	50	60	70	80	90	92	94	96	98	TEO	
S1T	-0.20	-0.20	-0.19	-0.11	-0.07	-0.00	0.09	0.10	0.12	0.14	0.16	0.19	
S1B	-0.76	-0.71	-0.84	-0.50	-0.23	-0.08	0.06	0.06	0.10	0.13	0.16	0.19	
S2T	-0.31	-0.24	-0.21	-0.13	-0.10	-0.06	0.02	0.09	0.11	0.13	0.16	0.19	
S2B	-0.66	-0.69	-0.91	-0.52	-0.26	-0.08	0.06	0.06	0.11	0.13	0.16	0.19	

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	590.58	585.48	557.00	551.30	539.76	533.92	74.85	516.96	418.68	513.04	488.16

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.31	14.56	14.74	14.88	14.94	14.95	14.95	14.95	14.96	14.96	14.96	14.97	14.96
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.96	14.95	14.95	14.94	14.93	14.93	14.92	14.92	14.91	14.90	14.60	13.93	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

THETA 3/4 = 50.0 DEG RPM 6504.

RUN - PT NO 687-7 CONFIGURATION LIC1E383PWTTRIRETP

HQ = 14.887 PSIA PINF = 13.343 PSIA TSC = 78.15 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4113 V = 461.27 FPS Q = 227.590 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.95	-0.79	-0.48	-0.60	-0.61	-1.10	-0.52	-0.26	-0.23	-0.18	-0.16	-0.27	-0.14
S18	0.95	0.43	-0.69	-1.09	-1.45	-2.04	-1.94	-1.72	-1.59	-1.24	0.14	0.02	-1.51
S21	0.02	-0.20	-0.66	-0.80	-0.62	-0.48	-0.37	-0.24	-0.24	-0.22	-0.19	-0.18	-0.27
S28	0.02	0.40	-0.84	-1.25	-1.94	-2.05	-2.03	-1.97	-1.69	-1.54	-1.25	-1.10	-1.08

	35	40	50	60	70	80	90	92	94	96	98	TEO
S17	-0.14	-0.15	-0.14	-0.06	-0.03	0.03	0.11	0.09	0.12	0.14	0.18	0.21
S18	-1.22	-0.97	-1.04	-0.64	-0.31	-0.12	0.05	0.09	0.12	0.14	0.18	0.21
S21	-0.27	-0.20	-0.19	-0.11	-0.08	-0.04	0.04	0.09	0.13	0.16	0.19	0.19
S28	-1.06	-0.95	-1.18	-0.67	-0.34	-0.13	0.06	0.09	0.13	0.16	0.19	0.19

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	665.59	665.45	634.29	630.25	615.20	607.53	82.81	585.40	451.30	574.94	551.28

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.51	14.72	14.83	14.93	15.04	15.12	15.17	15.21	15.26	15.31	15.35	15.37	15.38

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.38	15.40	15.39	15.38	15.38	15.39	15.39	15.41	15.42	15.35	14.96	13.99

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 687-12 CONFIGURATION LICIE3B3PWJTIR1RETP THETA 3/4 = 50.0 DEG RPM 5502.

HO = 14.880 PSIA PINF = 13.338 PSIA TSC = 76.72 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4116 V = 460.44 FPS Q = 227.288 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	1E0	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.93	-0.73	-0.61	-0.71	-0.69	-1.07	-0.52	-0.32	-0.27	-0.22	-0.20	-0.31	-0.17
S18	0.93	0.54	-0.48	-0.84	-1.17	-1.69	-1.62	-1.46	-1.33	-1.05	0.05	0.06	-1.29
S21	0.01	-0.34	-0.77	-0.93	-0.70	-0.55	-0.43	-0.29	-0.28	-0.25	-0.22	-0.20	-0.28
S28	0.01	0.52	-0.62	-1.00	-1.59	-1.58	-1.68	-1.65	-1.41	-1.27	-1.00	-0.89	-0.89

	35	40	50	60	70	80	90	92	94	96	98	TE0
S17	-0.17	-0.17	-0.16	-0.07	-0.04	0.01	0.10	0.09	0.11	0.15	0.17	0.20
S18	-1.05	-0.89	-0.95	-0.57	-0.27	-0.09	0.06	0.09	0.11	0.15	0.17	0.20
S21	-0.29	-0.22	-0.20	-0.13	-0.09	-0.05	0.02	0.09	0.12	0.16	0.79	0.19
S28	-0.88	-0.86	-1.05	-0.60	-0.30	-0.11	0.06	0.09	0.12	0.16	0.79	0.19

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	631.89	631.14	600.7	594.29	580.96	571.74	74.79	552.32	498.82	546.18	528.24

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.42	14.64	14.76	14.88	14.99	15.04	15.07	15.09	15.10	15.12	15.13	15.15	15.15
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.17	15.13	15.18	15.18	15.18	15.20	15.20	15.19	15.19	15.18	14.91	13.94	

TABLE IX

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PI NO 688-6 CONFIGURATION LIC1E3B3PMTTIRIRETP THETA 3/4 = 58.0 DEG RPM 4500.

HO = 14.864 PSIA PINF = 12.545 PSIA TSC = 82.57 DEG F RHO = 0.00203 SLUGS/CU FT

M = 0.5147 V = 573.64 FPS Q = 333.942 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	1E0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.89	-0.77	-0.94	-0.99	-0.94	-0.70	-0.07	-0.48	-0.41	-0.34	-0.30	-0.39	-0.25
S1B	0.89	0.71	-0.20	-0.51	-0.85	-1.43	-1.42	-1.30	-1.20	-0.94	0.07	0.07	-0.25
S2T	-0.05	-0.59	-1.02	-1.25	-0.96	-0.86	-0.64	-0.46	-0.42	-0.37	-0.33	-0.29	-0.37
S2B	-0.05	0.69	-0.34	-0.71	-1.27	-1.43	-1.50	-1.52	-1.28	-1.15	-0.91	-0.78	-0.80
	35	40	50	60	70	80	90	92	94	96	98	TE0	
S1T	-0.25	-0.25	-0.24	-0.15	-0.11	-0.05	0.04	0.06	0.08	0.10	0.11	0.14	
S1B	-0.98	-0.89	-1.02	-0.60	-0.28	-0.12	0.03	0.06	0.08	0.10	0.11	0.14	
S2T	-0.38	-0.31	-0.29	-0.20	-0.16	-0.12	-0.03	0.06	0.08	0.11	0.88	0.13	
S2B	-0.83	-0.85	-1.11	-0.61	-0.30	-0.12	0.03	0.06	0.08	0.11	0.88	0.13	

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	746.80	740.83	709.77	702.70	690.22	678.58	93.96	659.92	471.32	655.34	614.94

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.93	14.33	14.61	14.82	14.95	14.98	14.99	14.99	15.00	15.00	15.01	15.01	15.01
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.01	15.00	14.97	14.95	14.96	14.94	14.93	14.93	14.92	14.92	14.23	13.39	

HSD SHROUDED PROPELLER TEST  
PHASE I - 8 FT TEST SECTION

# PRESSURE DATA

```

RUN - PT NO 688- 7 CONFIGURATION LICIE383PWTTIRIRETP
      THETA 3/4 = 58.0 DEG RPM 6327.

```

HO = 14.368 PSIA	PINE = 12.538 PSIA	TSC = 83.22 DEG F	RHO = 0.00203 SLUGS/CU FT
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M = 0.5160 V = 575.34.FPS Q = 335.399 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LSO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.92	-0.78	-0.84	-0.93	-0.89	-0.72	-0.13	-0.44	-0.38	-0.31	-0.28	-0.38	-0.24
S1B	0.92	0.66	-0.31	-0.66	-1.04	-1.70	-1.69	-1.57	-1.46	-1.15	0.07	0.11	-1.38
S2T	-0.05	-0.52	-0.99	-1.19	-0.92	-0.74	-0.57	-0.41	-0.38	-0.34	-0.31	-0.27	-0.35
S2B	-0.05	-0.64	-0.46	-0.83	-1.47	-1.66	-1.74	-1.80	-1.51	-1.36	-1.11	-0.93	-0.96

## INLET VELOCITIES, FPS

[illegible]

## EXIT RAKE PRESSURES, PSIA

	01	02	03	04	05	06	07	08	09	10	11	12	13
ORIFICE	14.13	14.43	14.59	14.73	14.84	14.90	14.95	14.98	15.03	15.09	15.17	15.22	15.24
RE													
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.24	15.26	15.28	15.30	15.31	15.33	15.33	15.33	15.31	15.22	14.36	13.39	

TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 688-11 CONFIGURATION LIC1E3B3PWTTRIREIP THETA 3/4 = 58.0 DEG RPM 5506.

HO = 14.860 PSIA PINF = 12.539 PSIA ISC = 84.26 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5150 V = 574.90 FPS Q = 334.223 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.90	-0.77	-0.88	-0.95	-0.92	-0.71	-0.20	-0.46	-0.39	-0.32	-0.29	-0.38	-0.25
S1B	0.90	0.67	-0.27	-0.60	-0.96	-1.58	-1.59	-1.47	-1.36	-1.08	0.10	-0.13	-1.25
S2T	-0.05	-0.55	-1.00	-1.22	-0.95	-0.78	-0.59	-0.43	-0.40	-0.36	-0.32	-0.28	-0.35
S2B	-0.05	0.65	-0.41	-0.78	-1.38	-1.57	-1.64	-1.68	-1.42	-1.27	-1.03	-0.88	-0.90
		35	40	50	60	70	80	90	92	94	96	98	TEO
S1J	-0.24	-0.25	-0.23	-0.15	-0.11	-0.11	-0.04	0.05	0.06	0.08	0.10	0.12	0.15
S1B	-1.07	-0.95	-1.09	-0.64	-0.31	-0.31	-0.13	0.03	0.06	0.08	0.10	0.12	0.15
S2T	-0.36	-0.29	-0.26	-0.18	-0.14	-0.14	-0.10	-0.02	0.05	0.08	0.11	0.88	0.14
S2B	-0.90	-0.89	-1.18	-0.64	-0.33	-0.33	-0.13	0.02	0.05	0.08	0.11	0.88	0.14

## INLET VELOCITIES, FPS

	ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	806.73	795.51	734.73	727.79	708.50	693.68	97.41	677.22	597.67	672.88	651.71	

## EXIT RAKE PRESSURES, PSIA

	ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.10	14.43	14.63	14.80	14.94	14.98	15.00	15.02	15.03	15.05	15.07	15.09	15.10	
	ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.10	15.13	15.13	15.12	15.13	15.14	15.14	15.14	15.14	15.15	15.14	14.49	13.34	

TABLE IX

HSD SHROUDED PROPELLER TEST  
PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 691-6 CONFIGURATION L1SCC1SC1SCPN1TIR1REIP THEIA 3/4 = 42.0 DEG RPM 4502.

H0 = 14.753 PSIA PINF = 13.875 PSIA TSC = 65.66 DEG F RHO = 0.00225 SLUGS/CU FT

M = 0.3072 V = 342.64 FPS Q = 131.862 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.61	-0.76	-1.24	-1.76	-1.51	0.95	-1.05	-0.82	-0.73	-0.68	-0.73	-0.84	-0.37
S1B	0.61	0.95	0.78	0.34	-0.05	-0.30	-0.46	-0.58	-0.47	-0.37	0.25	0.35	-0.36
S2T	-0.02	-0.75	-1.41	-1.77	-1.35	-0.02	-0.97	-0.94	-0.83	-1.15	0.34	-0.02	-0.74
S2B	-0.02	0.93	0.74	0.23	-0.12	-0.35	-0.58	-0.62	-0.79	-0.66	-0.44	-0.31	-0.30

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.63	-0.54	-0.40	-0.16	-0.08	0.02	0.16	0.16	0.18	0.20	0.22	0.25
S1B	-0.28	-0.23	-0.19	-0.11	-0.00	0.09	0.13	0.13	0.16	0.20	0.22	0.25
S2T	-0.61	-0.49	-0.31	-0.22	-0.12	-0.01	0.12	0.13	0.16	0.17	0.20	0.23
S2B	-0.26	-0.24	-0.21	-0.13	-0.04	0.05	0.11	0.13	0.16	0.17	0.20	0.23

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
RI	357.71	372.45	342.86	348.42	336.32	338.22	332.50	333.46	333.70	331.78	342.74

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.59	14.70	14.80	14.87	14.87	14.90	14.89	14.90	14.91	14.91	14.92	14.92	14.92
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.92	14.92	14.90	14.89	14.89	14.87	14.84	14.82	14.73	14.34	14.75	14.76	

TABLE IX

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## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PI NO 691-7 CONFIGURATION L13SC1SC13CPNTIIRIREJP THEIA 3/4 = 42.0 DEG RPM 6503.

HQ = 14.752 PSIA PINE = 13.869 PSIA ISC = 66.31 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3081 V = 343.82 FPS Q = 132.565 PSF PSI = 0. DEG

## SHROUDED PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.87	-0.15	-0.62	-1.24	-1.15	0.94	-0.79	-0.61	-0.56	-0.52	-0.66	-0.70	-0.74
S18	0.87	0.80	0.45	-0.20	-0.76	-1.05	-1.23	-1.35	-0.70	-0.75	0.31	0.40	-1.03
S27	-0.01	-0.16	-0.75	-1.21	-0.98	-0.01	-0.78	-0.72	-0.64	-0.99	0.38	-0.01	-0.64
S28	-0.01	0.76	0.41	-0.18	-0.86	-1.14	-1.42	-1.44	-1.70	-1.39	-1.08	-0.88	-0.84

	35	40	50	60	70	80	90	92	94	96	98	TEO
S17	-0.54	-0.46	-0.38	-0.11	-0.03	0.05	0.19					
S18	-0.75	-0.51	-0.28	-0.19	-0.04	0.08	0.13	0.17	0.20	0.21	0.25	0.29
S27	-0.50	-0.40	-0.24	-0.16	-0.06	0.04	0.15					
S28	-0.72	-0.48	-0.31	-0.21	-0.07	0.04	0.13	0.16	0.18	0.20	0.24	0.28

## INLET VELOCITIES, FPS

ORIFICE	Q1	Q2	Q4	Q6	Q7	Q9	10	12	13	15	V AVE
R1	439.11	447.34	413.62	422.26	400.83	401.64	391.01	391.01	388.43	382.53	407.78

## EXIT RAKE PRESSURES, PSIA

ORIFICE	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	10	11	12	13
RE	14.71	14.94	15.02	15.05	15.11	15.15	15.20	15.23	15.25	15.27	15.29	15.30	15.32
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.33	15.34	15.34	15.36	15.35	15.34	15.32	15.26	15.08	14.38	14.74	14.76	



TABLE IX

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 EI TEST SECTION

## PRESSURE DATA

RUN - PT NO 691-10 CONFIGURATION 11SCCISCISCNIIIRIIRIIP THEIA 3/4 = 42.0 DEG RPM 5501.

HO = 14.753 PSIA PINE = 13.867 PSIA ISC = 66.26 DEG F RHO = 0.00224 SLUGS/CU FT

M = 0.3086 V = 344.60 FPS Q = 132.991 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.72	-0.50	-1.56	-1.38	0.95	-0.95	-0.74	-0.66	-0.61	-0.72	-0.78	-0.52
S18	0.72	0.90	0.16	-0.34	-0.56	-0.73	-0.86	-0.58	-0.52	0.26	0.34	-0.61
S21	-0.01	-0.50	-1.13	-1.19	-0.02	-0.89	-0.85	-0.74	-1.11	0.35	-0.02	-0.75
S28	-0.01	0.88	0.10	-0.38	-0.65	-0.88	-0.92	-1.12	-0.95	-0.70	-0.52	-0.52

	35	40	50	60	70	80	90	92	94	96	98	TEO
S17	-0.61	-0.52	-0.40	-0.14	-0.06	0.03	0.17	0.13	0.17	0.21	0.23	0.26
S18	-0.46	-0.35	-0.22	-0.13	-0.02	0.06	0.13	0.15	0.17	0.21	0.23	0.26
S21	-0.61	-0.48	-0.32	-0.24	-0.13	-0.01	0.10	0.12	0.16	0.17	0.19	0.22
S28	-0.44	-0.35	-0.24	-0.16	-0.04	0.04	0.12	0.12	0.16	0.17	0.19	0.22

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	388.44	398.15	369.20	375.31	361.16	364.72	354.90	356.72	357.10	353.47	367.92

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.67	14.79	14.87	14.94	14.99	15.01	15.03	15.03	15.04	15.05	15.05	15.06	15.07

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.07	15.06	15.06	15.05	15.04	15.04	15.02	14.99	14.83	14.34	14.62	14.75

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TABLE IX

## HSD SHROUDED PROPELLER TEST

## PHASE I - 3 FT TEST SECTION

## PRESSURE DATA

THEIA 3/4 = 46.0 DEG RPM 4506.

RUN - PT NO 692-6 CONFIGURATION L1SCG1SC1E1SCPN1IR1R1E1P

H0 = 14.743 PSIA PINE = 13.222 PSIA ISC = 72.16 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4107 V = 457.50 FPS Q = 224.309 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LE0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	0.57	-0.82	-1.33	-1.93	-1.62	0.98	-1.09	-0.85	-0.76	-0.68	-0.75	-0.85	-0.31
S18	0.57	0.97	0.85	0.48	0.11	-0.11	-0.27	-0.42	-0.37	-0.29	0.25	0.36	-0.20
S2T	-0.01	-0.82	-1.53	-1.94	-1.45	-0.29	-0.98	-0.96	-0.85	-1.16	0.37	-0.00	-0.77
S2B	-0.01	0.96	0.82	0.41	0.07	-0.15	-0.36	-0.42	-0.61	-0.47	-0.27	-0.17	-0.16

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.64	-0.54	-0.37	-0.15	-0.05	0.04	0.18	0.17	0.20	0.21	0.24	0.26
S18	-0.16	-0.16	-0.15	-0.08	0.03	0.10	0.15	0.11	0.16	0.18	0.19	0.23
S2T	-0.62	-0.50	-0.31	-0.23	-0.12	-0.01	0.14	0.14	0.16	0.19	0.21	0.23
S2B	-0.13	-0.16	-0.16	-0.09	0.01	0.07	0.14	0.14	0.16	0.19	0.21	0.23

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	10	12	13	15	V AVE
R1	445.34	466.43	428.40	436.11	422.07	426.77	419.64	424.35	420.04	431.32

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.37	14.55	14.71	14.81	14.84	14.83	14.85	14.85	14.85	14.86	14.87	14.86	14.86
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.85	14.84	14.82	14.81	14.79	14.77	14.76	14.74	14.67	13.91	14.26	14.68	

## PHASE I - 8 FT TEST SECTION

RUN	-	PT NO	692-7	CONFIGURATION	L1SCC1SCE1SCPNTTIRREIP	THETA 3/4 = 46.0 DEG	RPM	6503.
-----	---	-------	-------	---------------	------------------------	----------------------	-----	-------

$HQ = 14.742 \text{ PSIA}$      $PINF = 13.212 \text{ PSIA}$      $TSC = 72.81 \text{ DEG F}$      $RHQ = 0.00214 \text{ SLUGS/CU-FT}$

M = 0.4119    V = 459.12 FPS    Q = 225.506 PSF    PSI = 0.    DEG

	LEO	Q1	Q2	Q4	Q6	Q8	10	12.5	15	17	20	25	30
S11	0.76	-0.40	-0.89	-1.53	-1.36	0.97	-0.90	-0.69	-0.63	-0.55	-0.66	-0.76	-0.50
S18	0.76	-0.23	-0.70	-0.20	-0.28	-0.53	-0.71	-0.86	-0.49	-0.50	0.29	0.40	-0.50
S21	0.02	-0.44	-1.07	-1.53	-1.17	-0.50	-0.85	-0.81	-0.71	-1.05	0.39	0.02	-0.67
S28	0.02	-0.91	0.67	0.17	-0.34	-0.59	-0.86	-0.90	-1.14	-0.91	-0.67	-0.51	-0.49

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1I	-0.56	-0.47	-0.36	-0.19	-0.01	0.07	0.21					
S1B	-0.43	-0.31	-0.18	-0.10	0.02	0.11	0.17	0.20	0.22	0.25	0.27	0.30
S2I	-0.52	-0.41	-0.24	-0.17	-0.06	0.04	0.16					
S2B	-0.40	-0.30	-0.21	-0.12	-0.00	0.08	0.16	0.18	0.21	0.22	0.24	0.27

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	516.32	526.28	490.88	500.55	478.21	481.75	470.33	474.64	472.36	466.58	487.79

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.52	14.72	14.86	14.95	15.05	15.12	15.17	15.20	15.23	15.24	15.26	15.29	15.30

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RF	15.32	15.33	15.32	15.32	15.31	15.29	15.26	15.15	14.82	14.05	14.51	14.74

TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN -- PT NO 692-12 CONFIGURATION L1SCCISCPCNTTIRIRETP THETA 3/4 = 46.0 DEG RPM 5504.

HQ = 14.742 PSIA PINF = 12.216 PSIA ISC = 72.94 DEG F RHO = 0.00214 SLUGS/CU FT

M = 0.4114 V = 458.58 FPS Q = 224.972 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1I	0.66	-0.64	-1.12	-1.76	-1.51	0.97	-1.01	-0.79	-0.70	-0.63	-0.69	-0.81	-0.40
S1B	0.66	0.96	0.79	0.36	-0.05	-0.29	-0.47	-0.62	-0.43	-0.39	0.26	0.37	-0.38
S2I	0.01	-0.64	-1.32	-1.75	-1.32	-0.39	-0.91	-0.89	-0.78	-1.11	0.37	0.00	-0.74
S2B	0.01	0.94	0.76	0.31	-0.12	-0.35	-0.58	-0.63	-0.86	-0.65	-0.46	-0.32	-0.31

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1I	-0.61	-0.51	-0.38	-0.13	-0.04	0.05	0.19					
S1B	-0.29	-0.23	-0.16	-0.09	0.02	0.11	0.16	0.18	0.21	0.23	0.25	0.28
S2I	-0.60	-0.47	-0.29	-0.20	-0.10	0.01	0.13					
S2B	-0.27	-0.23	-0.13	-0.10	0.00	0.08	0.15	0.18	0.19	0.20	0.22	0.25

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	478.61	495.04	456.62	465.42	448.35	451.34	441.63	446.17	446.64	442.86	457.27

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.48	14.63	14.75	14.87	14.96	14.98	14.99	15.01	15.02	15.03	15.05	15.06	15.06

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	15.06	15.06	15.03	15.01	15.00	14.98	14.95	14.90	14.74	13.97	14.37	14.72

TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 693-6 CONFIGURATION L1SCCISCEISCPNIIIRIETP 0 THETA 3/4 = 50.0 DEG RPM 4503.

HO = 14.733 PSIA PINF = 12.441 PSIA ISC = 78.15 DEG F RHO = 0.00203 SLUGS/CU FT

M = 0.5139 V = 570.43 FPS Q = 330.128 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.57	-0.87	-1.44	-2.20	-2.00	1.00	-1.27	-1.00	-0.88	-0.81	-0.81	-0.95	-0.33
S18	0.57	1.00	0.89	0.53	0.16	-0.07	-0.25	-0.41	-0.37	-0.31	0.20	0.35	-0.20
S21	-0.05	-0.88	-1.73	-2.36	-1.76	-0.32	-1.12	-1.09	-0.96	-1.29	0.34	-0.05	-0.86
S26	-0.05	0.99	0.87	0.48	0.10	-0.12	-0.36	-0.42	-0.65	-0.47	-0.29	-0.18	-0.17

	35	40	50	60	70	80	90	92	94	96	98	TEO
S17	-0.72	-0.61	-0.41	-0.20	-0.10	0.01	0.15					
S18	-0.18	-0.20	-0.21	-0.13	-0.01	0.07	0.13	0.14	0.16	0.18	0.21	0.23
S21	-0.68	-0.55	-0.35	-0.26	-0.15	-0.03	0.09					
S28	-0.14	-0.20	-0.21	-0.14	-0.04	0.03	0.10	0.12	0.14	0.16	0.19	0.21

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	550.32	574.07	529.66	540.83	521.67	528.34	518.98	527.01	528.53	525.87	534.53

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.05	14.38	14.61	14.76	14.80	14.80	14.80	14.81	14.80	14.81	14.81	14.80	14.79

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.78	14.75	14.73	14.71	14.69	14.66	14.65	14.62	14.54	13.24	13.72	14.38

# TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

RUN - PT NO 693- 7 CONFIGURATION LISCCISCEISCPNIIIRIREIP 0 THEIA 3/4 = 50.0 DEG RPM 6505.

HQ = 14.733 PSIA PINE = 12.432 PSIA ISC = 79.71 DEG F RHO = 0.00202 SLUGS/CU FT

M = 0.5151 V = 572.55 FPS Q = 331.435 PSE PSI = 0. DEG

#### SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.69	-0.63	-1.18	-2.09	-1.77	0.99	-1.17	-0.91	-0.81	-0.74	-0.78	-0.90	-0.45
S18	0.69	0.98	0.81	0.37	-0.07	-0.33	-0.52	-0.70	-0.45	-0.44	0.22	0.36	-0.48
S27	-0.04	-0.63	-1.43	-2.08	-1.55	-0.44	-1.04	-1.01	-0.88	-1.24	0.36	-0.04	-0.78
S28	-0.04	0.96	0.78	0.33	-0.14	-0.39	-0.66	-0.73	-0.99	-0.80	-0.57	-0.40	-0.40

	35	40	50	60	70	80	90	92	94	96	98	100
S17	-0.68	-0.58	-0.43	-0.17	-0.08	0.03	0.17	0.16	0.18	0.20	0.23	0.25
S18	-0.35	-0.28	-0.23	-0.15	-0.02	0.07	0.14	0.16	0.18	0.20	0.23	0.25
S27	-0.64	-0.51	-0.32	-0.24	-0.13	-0.01	0.11	0.14	0.16	0.18	0.21	0.23
S28	-0.33	-0.29	-0.26	-0.16	-0.04	0.04	0.12	0.14	0.16	0.18	0.21	0.23

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	607.54	617.33	580.97	594.48	569.74	576.62	562.80	569.74	568.59	563.53	581.13

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.18	14.41	14.70	14.90	15.05	15.12	15.15	15.16	15.20	15.23	15.27	15.29	15.30
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	15.29	15.27	15.22	15.18	15.13	15.10	15.05	14.95	14.61	13.42	13.96	14.60	

TABLE IX

E330590 - 1

## HSD SHRUGDED PROPELLER TEST

## PHASE J - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 693-12 CONFIGURATION L1SCGJSCGELSCPNIIIR1RETP 0 THEIA 3/4 = 50.0 DEG RPM 5500.

HQ = 14.732 PSIA PINF = 12.437 PSIA ISC = 101.44 DEG E RHO = 0.00194 SLUGS/CU FT

M = 0.5143 V = 582.17 FPS Q = 330.618 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S11	0.64	-0.73	-2.19	-1.85	0.99	-1.18	-0.94	-0.84	-0.78	-0.80	-0.87	-0.39
S18	0.64	0.99	0.85	0.06	-0.19	-0.38	-0.54	-0.40	-0.37	0.19	0.35	-0.34
S21	-0.05	-0.75	-1.55	-2.22	-1.64	-0.37	-1.07	-0.91	-1.24	0.34	-0.03	-0.81
S28	-0.05	0.98	0.83	0.41	-0.01	-0.26	-0.51	-0.81	-0.67	-0.44	-0.28	-0.28

	35	40	50	60	70	80	90	92	94	96	98	TEO
S11	-0.68	-0.57	-0.41	-0.18	-0.08	0.02	0.16					
S18	-0.27	-0.25	-0.22	-0.14	-0.02	0.07	0.13	0.15	0.18	0.19	0.21	0.24
S21	-0.64	-0.52	-0.33	-0.24	-0.13	-0.01	0.11					
S28	-0.24	-0.24	-0.23	-0.15	-0.04	0.04	0.11	0.13	0.16	0.18	0.20	0.23

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	591.30	614.15	564.61	578.89	557.92	561.88	550.14	557.46	559.57	553.62	568.95

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.14	14.41	14.66	14.84	14.92	14.92	14.93	14.95	14.95	14.96	14.97	14.98	14.98

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.97	14.96	14.93	14.93	14.88	14.86	14.83	14.81	14.45	13.33	13.82	14.46

TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 695-8 CONFIGURATION LICIEIB3PWIIIRAREIP THEIA 3/4 = 34.0 DEG RPM 5500.

MO = 14.600 PSIA PINE = 13.314 PSIA ISC = 67.74 DEG E RHO = 0.00217 SLUGS/CU FT

M = 0.3858 V = 428.84 FPS Q = 199.408 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.35	-0.01	-0.23	-0.00	0.27	0.97	-0.22	-0.23	-0.32	-0.11	-0.18	-0.14	-0.26
S18	0.35	0.29	0.60	0.20	0.56	0.37	0.28	0.64	-0.17	-0.25	-0.10	-0.13	-0.13
S21	0.31	0.44	0.18	0.18	0.17	0.16	0.17	0.18	0.17	0.14	0.16	0.31	0.18
S26	0.31	0.16	0.17	0.14	0.16	0.14	0.16	0.18	0.18	0.17	0.16	0.16	0.17

	35	40	50	60	70	80	90	92	94	96	98	YEO
S17	-0.22	-0.16	-0.33	0.67	0.66	0.23	0.78					
S18	-0.19	-0.12	-0.14	-0.12	-0.12	-0.31	0.12	0.73	0.60	0.02	0.75	0.77
S21	0.17	0.16	0.17	0.17	0.17	0.17	0.17					
S28	0.13	0.12	0.16	0.15	0.16	0.16	0.18	0.18	0.17	0.17	0.13	0.17

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	Y AVE
R1	380.69	379.83	360.38	360.38	345.73	345.73	340.01	341.91	341.08	339.18	353.49

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.44	14.54	14.63	14.71	14.75	14.75	14.76	14.77	14.78	14.78	14.78	14.80	14.80
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.81	14.81	14.82	14.82	14.82	14.82	14.82	14.81	14.80	14.61	14.28	14.66	14.66



## TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 696- 8 CONFIGURATION LIC1E1B3PWTIRIRETP THEIA 3/4 = 38.0 DEG RPM 5502.

HO = 14.665 PSIA PINF = 13.783 PSIA ISC = 69.56 DEG F RHQ = 0.00222 SLUGS/CU FT

M = 0.3089 V = 345.69 FPS Q = 132.378 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	0.39	0.16	-0.56	-0.55	0.04	0.96	-0.84	-0.89	-0.94	-0.76	-0.81	-0.87	-1.05
S18	0.39	0.25	0.71	0.14	0.26	0.16	0.17	0.75	-0.66	-0.78	-0.65	-0.75	-0.73
S27	-0.00	-0.25	-0.22	-0.22	-0.24	-0.24	-0.22	-0.21	-0.24	-0.28	-0.23	-0.01	-0.23
S28	-0.00	-0.26	-0.23	-0.26	-0.25	-0.30	-0.25	-0.23	-0.23	-0.24	-0.26	-0.24	-0.23

	35	40	50	60	70	80	90	92	94	96	98	TEO
S17	-0.78	-0.81	-0.83	0.71	0.66	-0.88	0.84					
S18	-0.78	-0.65	-0.69	-0.62	-0.78	-0.89	-1.10	0.79	0.59	-0.88	0.84	0.77
S27	-0.23	-0.26	-0.26	-0.23	-0.22	-0.26	-0.24					
S28	-0.26	-0.31	-0.24	-0.29	-0.29	-0.24	-0.22	-0.23	-0.24	-0.21	-0.26	-0.24

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	397.85	399.30	378.30	379.17	363.27	363.27	356.12	355.20	355.33	353.49	370.13

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.52	14.57	14.60	14.73	14.80	14.81	14.83	14.84	14.85	14.87	14.88	14.89	14.90

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.91	14.93	14.92	14.93	14.94	14.95	14.96	14.96	14.95	14.73	14.31	14.66	14.67



TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUN - PT NO 698-7 CONFIGURATION LICIE1B3PWITIRIRETP THEIA 3/4 = 46.0 DEG RPM 5498.

HQ = 14.664 PSIA PINE = 13.151 PSIA ISC = 78.15 DEG F RHO = 0.00211 SLUGS/CU FT

M = 0.4105 V = 452.88 FPS Q = 222.933 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	1E0	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-0.82	0.42	0.15	0.37	0.45	0.97	-0.90	-0.83	-1.00	-0.81	-0.90	-0.81	-0.78
S1B	-0.82	-0.15	-0.28	-0.33	-0.79	-0.61	-0.69	-0.56	-0.88	-0.85	-0.66	-0.69	-0.90
S2T	0.01	-0.23	-0.21	-0.19	-0.23	-0.20	-0.19	-0.20	-0.21	-0.24	-0.19	0.02	-0.22
S2B	0.01	-0.26	-0.25	-0.26	-0.23	-0.25	-0.22	-0.21	-0.20	-0.20	-0.20	-0.22	-0.22

	35	40	50	60	70	80	90	92	94	96	98	TE0
S1T	-0.95	-0.23	-1.23	-0.34	-0.50	-0.80	-0.20					
S1B	-0.73	-0.84	-0.37	-0.29	-0.70	-0.83	0.08	-0.36	-0.25	-0.35	-0.57	-0.42
S2T	-0.22	-0.23	-0.22	-0.23	-0.21	-0.23	-0.23					
S2B	-0.23	-0.22	-0.22	-0.27	-0.26	-0.22	-0.21	-0.20	-0.22	-0.22	-0.26	-0.23

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	502.02	505.13	478.49	477.77	459.47	460.95	451.30	451.30	453.33	448.79	468.85

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.37	14.45	14.56	14.68	14.77	14.81	14.84	14.85	14.87	14.89	14.91	14.92	14.93

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.95	14.96	14.96	14.96	14.97	14.98	14.99	15.01	15.00	14.65	14.06	14.67	14.67

# TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

### PHASE I - 8 FT TEST SECTION

#### PRESSURE DATA

THEIA 3/4 = 46.0 DEG RPM 5499.

HO = 14.673 PSIA PINE = 12.389 PSIA TSC = 86.48 DEG F RHO = 0.00199 SLUGS/CU FT

M = 0.5140 V = 575.03 FPS Q = 328.979 PSF PSI = 0. DEG

#### SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S17	-0.85	-0.23	-0.25	-0.19	-0.08	0.99	-0.13	-1.03	-0.86	-0.92	-0.55	-1.04	-0.92
S18	-0.85	-0.91	-0.94	-0.90	-0.85	-0.88	-0.86	-0.90	-0.90	-0.95	-0.80	-0.85	-0.83
S21	-0.05	-0.31	-0.28	-0.28	-0.29	-0.28	-0.28	-0.28	-0.29	-0.32	-0.28	-0.05	-0.33
S28	-0.05	-0.08	-0.31	-0.32	-0.31	-0.34	-0.31	-0.32	-0.30	-0.29	-0.30	-0.32	-0.29

	35	40	50	60	70	80	90	92	94	96	98	TEO
S17	-0.91	-0.21	0.10	-0.28	-0.53	-0.52	-0.00	-0.00	-0.05	0.09	0.02	-0.02
S18	0.02	-0.99	-0.90	-0.87	-1.02	-0.94	-0.52	-0.52	-0.05	0.02	-0.02	-0.02
S21	-0.32	-0.31	-0.48	-0.30	-0.31	-0.32	-0.32	-0.32	-0.30	-0.31	-0.35	-0.33
S28	-0.31	-0.30	-0.30	-0.35	-0.35	-0.32	-0.30	-0.28	-0.30	-0.31	-0.35	-0.33

#### INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	604.02	602.19	567.93	569.20	549.73	549.73	539.47	543.45	548.22	542.30	561.63

#### EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	13.95	14.24	14.48	14.66	14.75	14.75	14.75	14.76	14.77	14.77	14.78	14.79	14.79
ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25	
RE	14.75	14.75	14.78	14.78	14.78	14.78	14.77	14.63	14.33	13.59	14.67	14.67	

TABLE IX

E330590 - 1

## HSD SHROUDED PROPELLER TEST

## PHASE I - 8 FT TEST SECTION

## PRESSURE DATA

RUM - PT NO 701-8 CONFIGURATION LICIE18PWITIR1RETP THETA 3/4 = 50.0 DEG RPM 5501.

HO = 14.673 PSIA PINF = 12.384 PSIA TSC = 86.48 DEG F RHO = 0.00199 SLUGS/CU FT

M = 0.5147 V = 575.71 FPS Q = 329.663 PSF PSI = 0. DEG

## SHROUD PRESSURE COEFFICIENTS

	LEO	01	02	04	06	08	10	12.5	15	17	20	25	30
S1T	-0.85	0.06	0.31	0.20	0.15	1.00	0.49	-0.98	-1.07	-1.13	-0.90	-0.97	-0.80
S1B	-0.85	-0.98	-0.92	-0.83	-0.85	-0.84	-0.84	-0.86	-1.04	-0.93	-0.84	-0.86	-0.94
S2T	-0.04	-0.31	-0.28	-0.27	-0.29	-0.29	-0.30	-0.28	-0.29	-0.33	-0.29	-0.04	-0.30
S2B	-0.04	0.29	-0.31	-0.33	-0.31	-0.33	-0.29	-0.30	-0.29	-0.29	-0.28	-0.29	-0.29

	35	40	50	60	70	80	90	92	94	96	98	TEO
S1T	-0.89	-0.91	0.31	0.17	0.09	-0.06	0.24					
S1B	-0.83	-0.82	-0.89	-0.95	-1.01	-0.83	-0.05	0.12	0.23	0.13	0.04	0.20
S2T	-0.30	-0.26	-0.22	-0.29	-0.30	-0.29	-0.31					
S2B	-0.31	-0.32	-0.30	-0.36	-0.34	-0.32	-0.29	-0.28	-0.31	-0.31	-0.29	-0.31

## INLET VELOCITIES, FPS

ORIFICE	01	03	04	06	07	09	10	12	13	15	V AVE
R1	628.45	628.32	593.99	595.84	573.84	574.47	562.44	566.93	569.28	562.86	585.64

## EXIT RAKE PRESSURES, PSIA

ORIFICE	01	02	03	04	05	06	07	08	09	10	11	12	13
RE	14.10	14.27	14.48	14.66	14.78	14.84	14.84	14.86	14.89	14.90	14.68	14.93	14.96

ORIFICE	14	15	16	17	18	19	20	21	22	23	24	25
RE	14.98	14.98	14.98	14.98	15.00	15.01	15.01	15.01	14.63	14.50	13.64	14.67